



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

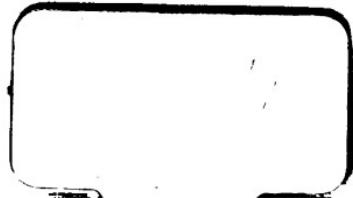
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

NYPL RESEARCH LIBRARIES

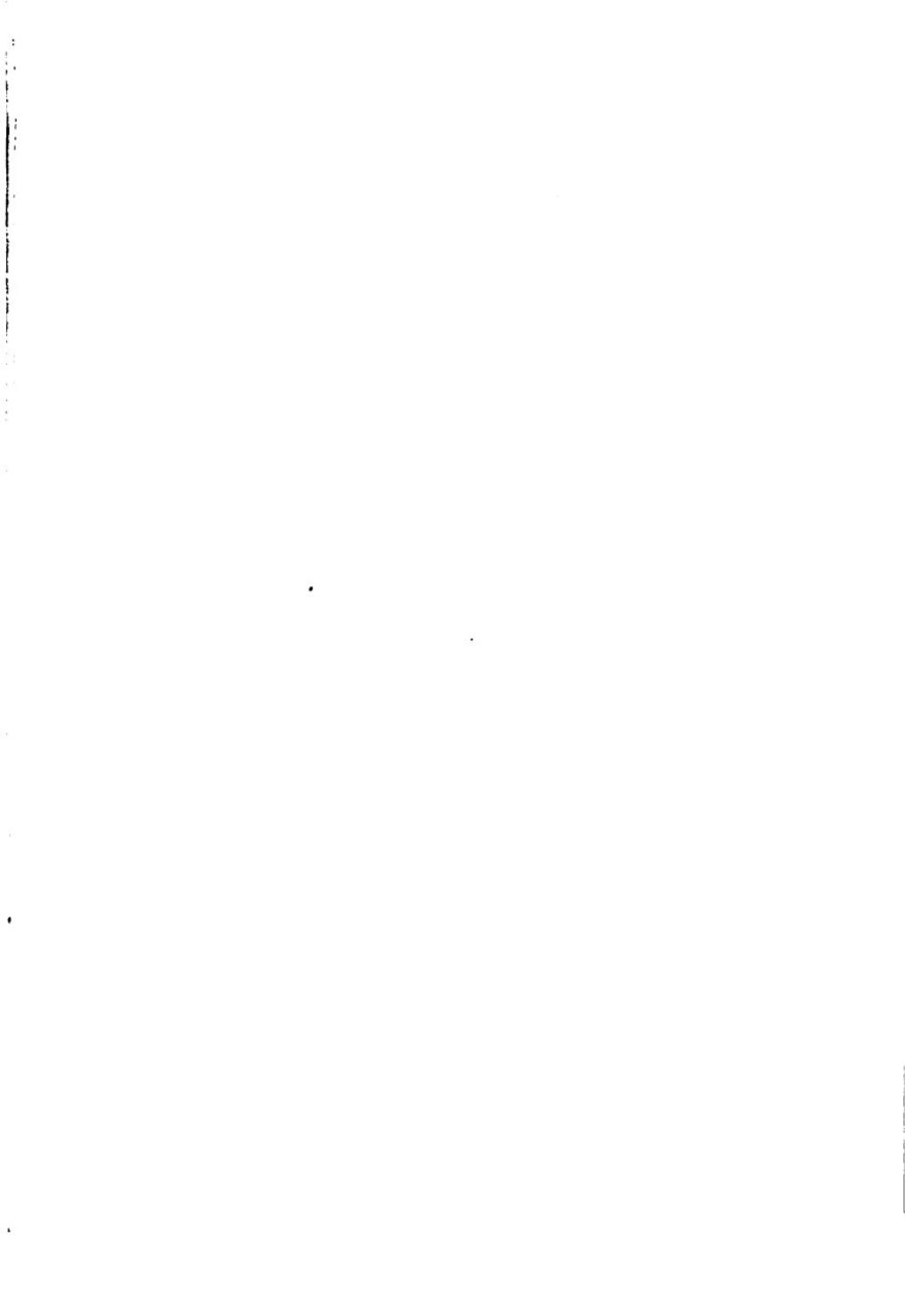


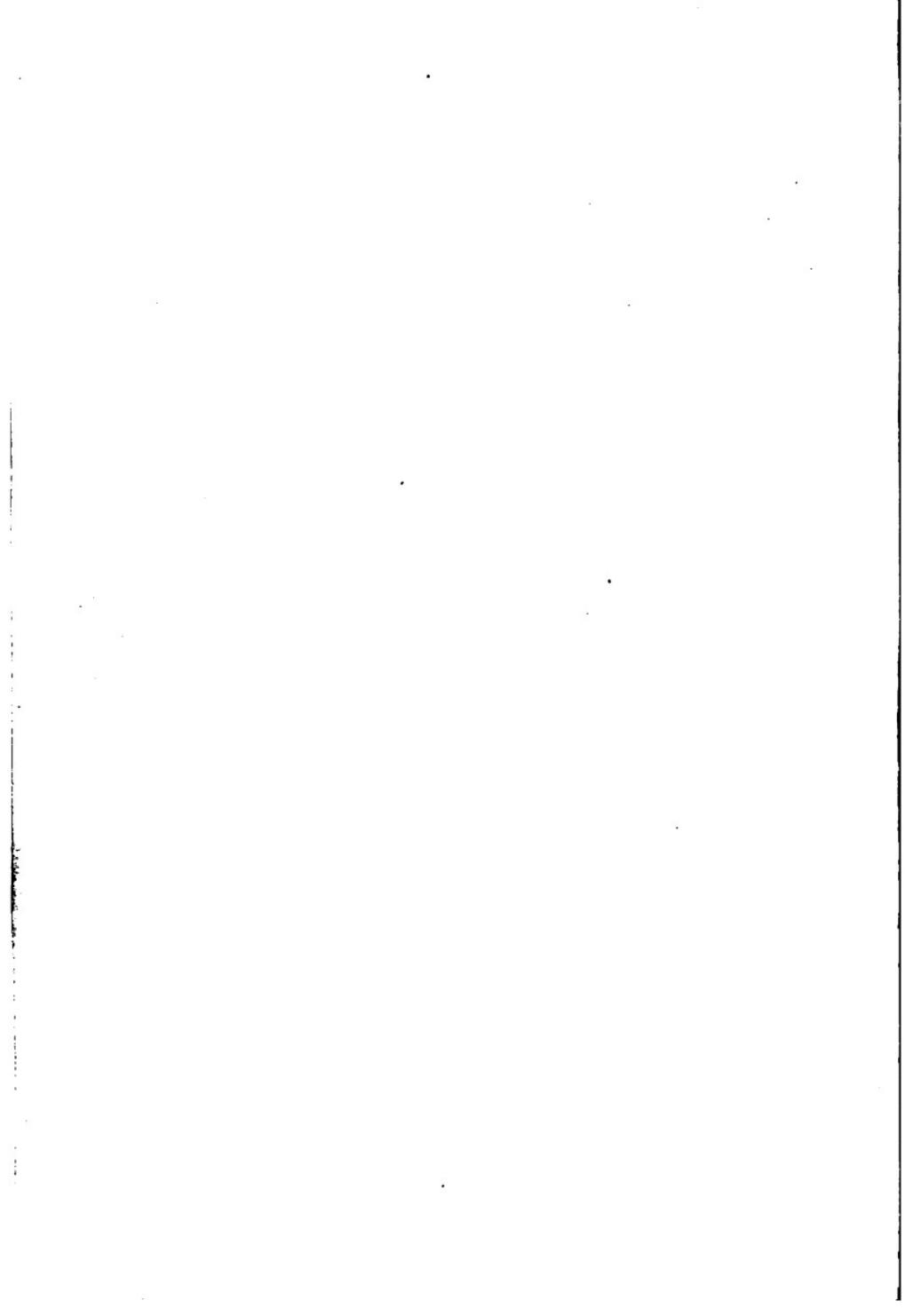
3 3433 08245171 1



BHI
silver









S. W. SILVER & CO.'S CIRCULAR NOTES

(Payable all the world over)

ARE ACCOMPANIED BY A LETTER OF INDICATION, WHICH ACTS AS A
LETTER OF INTRODUCTION.

CORRESPONDENTS.

EUROPE.

Chief Cities and Towns.

ASIA.

Aden.
Batavia.
Bombay.
Calcuta.
Colombo.
FooChow.
Galle.
Fing Kong.

Madras.
Philippine Islands (Iloilo).
" " (Manilla).
Saigon.
Shanghai.
Singapore.
Umritsur.
Yokohama.

AFRICA.

Alexandria.
Beaufort, W.
Bethulie.
Bloemfontein.
Burgersdorp.
Cape Town.
Carnarvon.
Colesberg.
Dordrecht.
Durban.
Graaf-Reinet.
Graham's Town.
Hope Town.
Kimberley (Diamond Fields).
King William's Town.
Lagos.
Liberia (Monrovia).

Lorenzo Marques.
Mafeteng (British Basutoland).
Mauritius.
Mossel Bay.
Murraysburg.
Philipstown.
Pietermaritzburg.
Port Elizabeth.
Potscherfstrom.
Pretoria.
Reunion (St. Denis).
Richmond.
Somerset, East.
Victoria, West.
Winburg.
Zagazig (Egypt).

CORRESPONDENTS—*continued.*

AUSTRALASIA.

Adelaide.	Port Lyttelton.
Auckland.	Portland.
Bathurst.	Sydney.
Brisbane.	Toowoomba.
Christchurch.	Wellington.
Dunedin.	Western Australia (Freemantle).
Geelong.	, , (Port Walcott).
Hobart Town.	, , (De Grey River).
Launceston.	
Melbourne.	
Nelson.	

AMERICA.

Bogota.	Panama.
Callao.	Para.
Cleveland (O.).	Philadelphia.
Chicago.	Portland (Oregon).
Costa Rica (San Jose).	Quebec.
Galveston.	Rosario.
Lima.	Rio de Janeiro.
Montreal.	San Francisco.
Newfoundland (St. John's).	Valparaiso.
New Grenada (Tumaco).	Vancouver Island (Victoria).
New York.	

WEST INDIES, &c.

Barbados.	Jamaica.
Berbice.	St. Thomas.
Demerara.	Trinidad.
Grenada.	

ALSO AT

Canary Islands (Lanzarote).	Madeira.
Cyprus.	Malta.
Falkland Islands.	New Caledonia.
Fiji Islands (Levuka, Ovalau).	Sandwich Islands (Honolulu).
Madagascar (Tamatave).	

All particulars respecting above on application to

S. W. SILVER & CO.

SUN COURT, 67 CORNHILL, LONDON, E.C.

2)

AUSTRALIA AND NEW ZEALAND, INCLUDING THE FIJI ISLANDS.

OPINIONS OF THE PRESS.

SYDNEY MORNING HERALD.—The compilers have evidently been careful to make this book suitable to all classes and interests, and to arrange its matter so as to anticipate all possible enquiries. The principal attraction of the book undoubtedly is that it is a valuable collection of suggestive facts, unalloyed by any local prejudices. The historical and geological portions of the chapter devoted to this Colony are extremely interesting and instructive.'

BRISBANE COURIER.—'The information given with regard to each Colony is very well digested and copious. Respecting our own Colony, we find a clear and impartial *résumé* of its capabilities as a field, not only for emigration but for investment. The book is not a mere emigrant's guide, but comprises a quantity of information, excellently collated, which will be found useful even to colonists of long standing, and is in fact the most handy gazetteer of the Colonies with which we are acquainted. In the endeavour "to exercise a double impartiality—to balance the advantages and disadvantages of emigration compared with life in the Old Country, and, at the same time, to do equal justice as between the Australian and New Zealand Colonies," it appears to us the publishers have signally succeeded.'

HOBART TOWN MERCURY.—'The compiler has devoted impartial attention to each colony, and points out the advantages they possess as fields of emigration.'

NATAL WITNESS.—'The book ought to be in the hands of everyone who cares to have a concise yet complete history of these wonderful Colonies at his finger-ends.'

ATHENÆUM.—'All the facts are given soberly and dryly, without any attempt at enthusiastic description or the graces of style. This, we are convinced, must be to the advantage of the intending emigrant, who has been too often misled by highly coloured and attractive descriptions.'

THE FIELD.—'Messrs. SILVER, in bringing before the public this edition of their handbook, seem to have done all in their power to render it worthy of its former favourable reception. . . . Australia and New Zealand affording, as they do, such good fields for certain classes of emigrants, we are always glad to notice any publication that in a truthful manner brings their special qualifications before the public.'

Opinions of the Press.

ILLUSTRATED LONDON NEWS.—‘The only satisfactory work is S. W. SILVER & Co.’s (published at the office of *The Colonies*). Its latest edition is considerably augmented and improved, with the addition of some interesting new chapters on the botany and zoology of New Zealand. The contents are so compactly arranged that it is quite pleasant to look for any item of knowledge, which is sure to be given in the most concise form of statement.’

STANDARD.—‘This work supplies emigrants with accurate information of the very kind they most want, in a clear, concise, and very portable form. It points out very satisfactorily the recommendations of each colony, with its special opportunities for the exercise of the right kind of qualification. To enable all emigrants to fix upon the country where they are likely to do best, we cannot conceive a more useful guide.’

GRAPHIC.—‘For a pocket guide-book brimful of facts about lands where labour almost commands its own price, we commend S. W. SILVER & Co.’s “Australia and New Zealand.”’

COURT JOURNAL.—‘The volume is alike useful to the merchant, tourist, invalid, and emigrant.’

PALL MALL GAZETTE.—‘We do not know when we have seen such a mass of various information as this book furnishes in its way, and it is not only very full but a very methodical compilation.’

LABOUR NEWS.—‘We observe several improvements and some additions in this edition. The marginal references are very serviceable.’

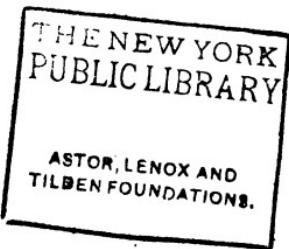
IRON.—‘For the emigrant, the man who contemplates founding a home in a new world, till now nothing trustworthy and at a moderate price has been compiled, the more pretentious works being not only bulky and expensive, but too general, while the smaller have been issued by interested parties, painting in rose-coloured hues some particular spot where money or labour was to be attracted. The book contains no verbiage, all being closed by a full index of twenty-four pages to facilitate reference.’

AGRICULTURAL GAZETTE.—‘Agriculture occupies a conspicuous place in the book, and to read of its progress in the Colonies is almost like reading a romance.’

MINING JOURNAL.—‘It really contains all that an emigrant, whether a capitalist or a working man, is likely to require. The several chapters are so subdivided that the reader, whatever may be his trade or profession, may readily refer to the subject in which he is more particularly interested.’

LABOURERS’ UNION CHRONICLE.—‘What Murray’s handbooks are for gentlemen in all places of aristocratic travel, these handbooks of Messrs. SILVER & Co. will be to all classes seeking homes in our Colonies.’

ELGIN COURANT.—‘He who needs a colonial book of reference cannot find a better.’



ASTOR, LENOX AND
TILBEN FOUNDATIONS.

ILLI
&
ct
tq
ca
fi

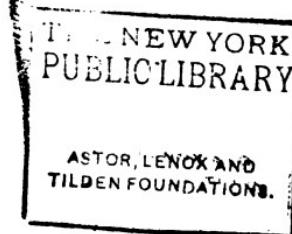
ST.
t
1
1

G1

C

P

H
1



S. W. SILVER & CO.'S

HANDBOOK

FOR

AUSTRALIA & NEW ZEALAND

(INCLUDING ALSO THE FIJI ISLANDS)

WITH

NEW MAP OF THE COLONIES.

THIRD EDITION.



LONDON:

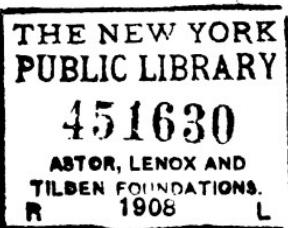
S. W. SILVER AND CO.

OFFICE OF 'THE COLONIES AND INDIA,'

SUN COURT, 67 CORNHILL.

1880.





LONDON : PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
AND PARLIAMENT STREET

PREFACE

TO

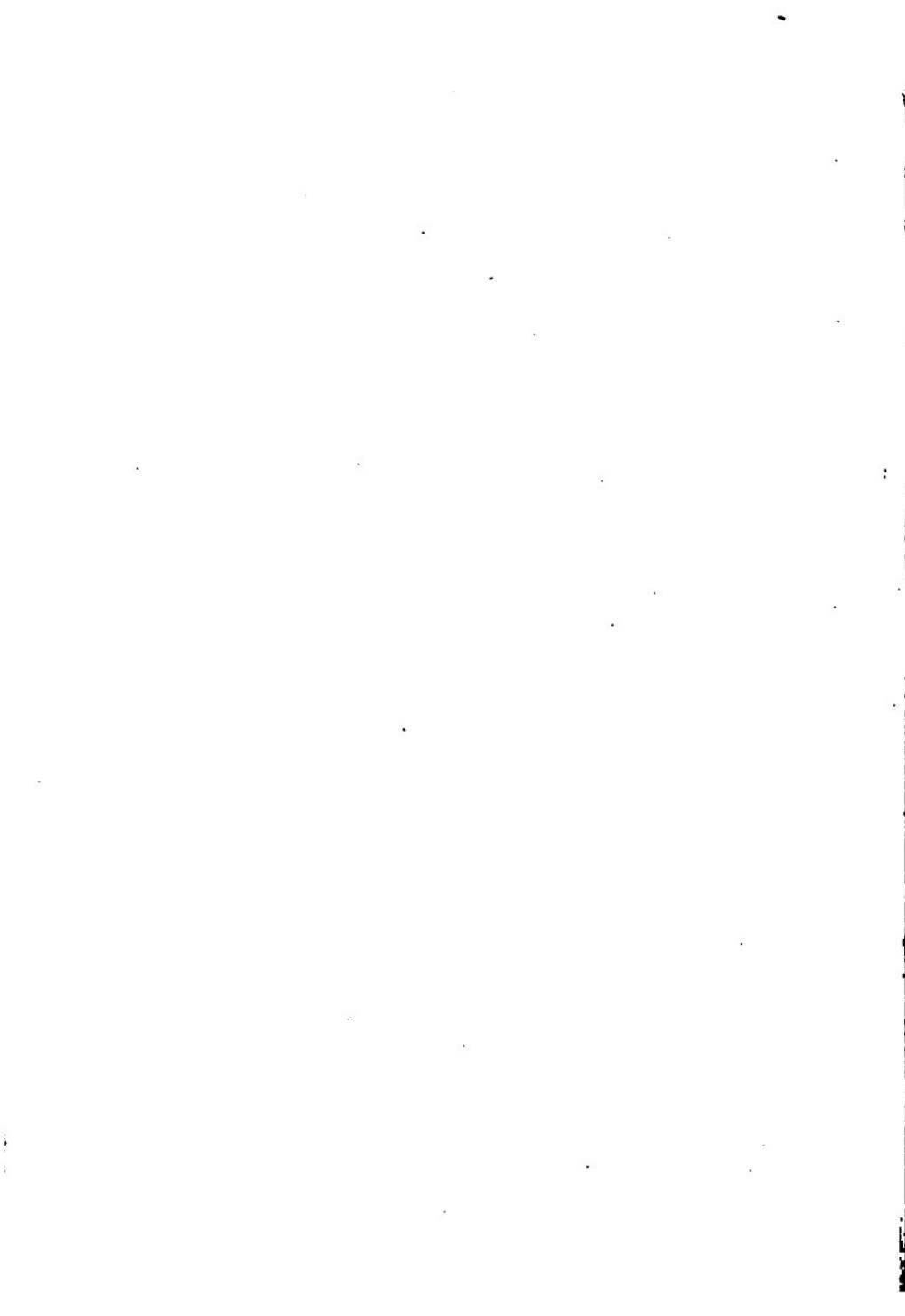
THE THIRD EDITION.

THE favour with which two editions of this Handbook have been received renders it unnecessary for the Publishers to say much in introducing a third edition to the public.

Great care has been taken, in revising the work, to bring the information contained in it down to the latest date, the statistical and other details having been corrected from the most recent returns from official and other authentic sources.

The Map has been constructed to show the advances which have been made in the work of exploration and settlement of the Interior, and includes, among other new features, the latest discoveries of Forrest and Winnecke.

August 1880.



PREFACE.

WHEN we first published this Handbook for Australia and New Zealand, we stated that it had been our desire to meet a well-known want, and to supply intending emigrants with accurate information in a concise and portable form. The great temptation of those numerous and able writers who have criticised colonial institutions has been to prefer a literary to a scientific treatment of the subject. Even when writing with the utmost good faith, they have involuntarily coloured their narratives with the personal impressions created by a somewhat limited experience. Our endeavour has been to exercise in the most scrupulous manner a double impartiality—to balance the advantages and disadvantages of emigration compared with life in the old country, and at the same time to do equal justice as between the Australian and New Zealand Colonies themselves.

The fact is, and it cannot be too plainly stated, that no colony is an El Dorado for those who lack the enterprise or the moral qualities which ensure success all over the world. But each Colony has special recommendations, and offers special opportunities for the full exercise of some kind of energy. In order to correct an erroneous tendency, we have considered the requirements of the skilled artisan, as well as those of the agricultural labourer; and we have collected full information for the

benefit of the capitalist, as well as the toiler. Hitherto it has been the custom to pay too little attention to the attractions which the Colonies offer to wealthy or moderately wealthy purchasers of labour, through the concentration of public interest on what was considered the more pressing economic question as to the prospects of the vendor.

We are anxious to point out to our readers that emigration to the Colonies should not merely be regarded as a *pis aller*, as a severe and painful remedy for straightened circumstances or a wrecked fortune. Emigration has happily a nobler side. It is a natural solution of most of the economic difficulties of old, highly organised, and crowded societies. Our Colonies are a field for the best activities of civilised man. They give ample rewards to lawful ambition, and in them it is not hard to find scope for every political and social aspiration. In classical antiquity it was esteemed a religious act to carry the civil and domestic institutions of the fatherland into a virgin soil, there to expand, and perpetuate the vitality of the parent stem. We ourselves can feel in the same spirit that our Colonies, and especially the provinces with which our Handbook deals, are not only to be viewed as markets for trade, but also as new centres of public life.

The welcome which this Handbook has received from the public has been most encouraging. We have evidence that it has served, and will, we trust, serve for the future, as an exact and sober guide for those who have a relish for thorough work, while as a natural consequence they prefer dry but trustworthy statements to loose assertions and misleading fancies. The primary object of this Handbook is to assist those whose needs are practical and commercial. But we hope also that it will help to make men conscious of

the value and dignity of the Colonial possessions of the Imperial Crown, and of the magnificent future which is promised to our Colonies in every part of the globe. This future will be their inheritance as long as they are recruited from the hardy British stock, and display a fortunate union of free institutions with wise and orderly principles of internal legislation.

This volume contains all necessary particulars as to the natural capabilities, the industries, the population, and the political circumstances of each Colony. The facts have been obtained from authentic sources; among others, from the agents-general of the different Colonies in London. They have, in this new edition, been carefully corrected up to date, although allowance must still be made for some irregularity in the arrival, and for certain differences in the form, of the statistical statements prepared by the various Administrations in Australia and New Zealand. In order to render this second edition of the Handbook as complete as possible, the part relating to Natural History and the sections which treat of the botany of Australia and New Zealand have been virtually re-written. We have felt that the study of the fauna and flora of Australasia is as welcome to men of science and lovers of nature in the mother country as to practical men and pioneers of commerce. Already some of the noblest Australasian trees and shrubs have been acclimatised in Europe; and we hope that in this, as in other instances, public opinion at home will be more interested than ever in the growth and splendid prospects of Her Majesty's dominions at the Antipodes.

Believing the change to be useful, we have inserted a coloured map of Australia and New Zealand, specially prepared for this edition of the Handbook, in lieu of the Season-Chart which appeared in the former edition. We

have also added a chapter on the Fiji Islands, which are included in the range of our new map. Although the cession of this fine group to the Imperial Crown has not yet been formally completed, it is morally certain that the Home Government have resolved to face and overcome all minor obstacles in their patriotic desire to consult the unanimous wishes of the Australian Colonies themselves, and to perform an Imperial duty. The result, we may reasonably expect, will be a lasting benefit to humanity and to commerce. After years of delay and vacillating policy, it is satisfactory to think that matters are *en train* for a complete and pacific annexation of the Fijian Group.

We have had considerable assistance in the compilation of this work from Dr. Walter Buller, F.L.S., Mr. G. F. Angas, F.L.S., Mr. Jas. Bonwick, F.R.G.S., and other gentlemen who have kindly placed their services at our disposal.

The pleasure which the rapid success of the Handbook has given us is heightened by the reflection that the great work of Colonisation is at once a relief to over-populated societies and a source of fresh power to new communities.

THE PUBLISHERS.

LONDON : September 1874.

CONTENTS.

[*A copious Index will be found at the end.*]

Preface	v, vi
-------------------	-------

NEW SOUTH WALES.

Discovery — History — Geography — Climate — Geology — Natural History of Australia — Australian Botany — Government — Population — Education — Religion — Pastoral — Agriculture — Mining — Trade — Manufactures — Land laws — Immigration — Rates of wages — Prices of provisions — Hints to intending emigrants	1 to 100
---	----------

VICTORIA.

Discovery — History — Geography — Climate — Geology — Government — Population — Education — Religion — Pastoral — Agriculture — Mining — Trade — Manufactures — Land laws — Immigration — Rates of wages — Prices of provisions — Hints to intending emigrants	101 to 192
--	------------

SOUTH AUSTRALIA.

Discovery — History — Geography — Climate — Geology — Government — Population — Education — Religion — Agriculture — Pastoral — Mining — Trade — Manufactures — Northern Territory of South Australia — Land laws — Immigration — Hints to intending emigrants	193 to 234
--	------------

QUEENSLAND.

Discovery — History — Geography — Climate — Geology — Government — Population — Education — Religion — Pastoral — Agriculture — Mining — Trade — Manufactures — Land laws — Immigration — Hints to intending emigrants	235 to 293
--	------------

WESTERN AUSTRALIA.

- Discovery—History—Geography—Climate—Geology—Government—Population—Education—Religion—Agriculture—Pastoral—Mining—Trade—Manufactures—Land laws—Immigration—Hints to intending emigrants 294 to 311

TASMANIA.

- Discovery—History—Geography—Climate—Local Natural History and Botany—Geology—Government—Population—Aborigines—Education—Religion—Agriculture—Pastoral—Mining—Trade—Manufactures—Land laws—Immigration—Hints to intending emigrants 312 to 342

NEW ZEALAND.

- Discovery—History—Geography—Climate—Distances of towns—Geology—Natural History—Botany—Government—Population—The Maoris—Education—Religion—Agriculture—Pastoral—Mining—Trade—Manufactures—Land laws—Immigration—Hints to intending emigrants 343 to 415

THE FIJI ISLANDS.

- Discovery—History—Government—Geography—Geology—Natural History—Botany—Climate—Native population—Trade, &c. 416 to 424

- Index, in detail 425 to 449

HANDBOOK

TO

AUSTRALIA AND NEW ZEALAND.

NEW SOUTH WALES.

As the oldest of the Australian Colonies—the parent of Victoria and Queensland, the ruler of Tasmania in its younger days, the civiliser and coloniser of New Zealand,—New South Wales is entitled to the post of honour in any description of those southern lands.

NEW SOUTH
WALES.

Parent
colony.

While the investor desires facts as to its monetary condition, the labourer as to the prospects of work, the miner concerning geology, the thoughtful emigrant about climate and productive resources, the general reader upon its rise and progress, an account of the Colony must include references, however limited the capacity of the volume, to every subject of interest.

Statistical information, as well as scientific intelligence, are as necessary to the complete comprehension of the state of things there, as the details of ordinary colonial life and the administration of Crown Lands.

The story of the settlement of New South Wales must naturally precede a statement of its present position.

Discovery and History.

On the 18th of April, 1770, Captain Cook was off Cape Howe, the south-eastern extremity of New Holland. Cook's discovery.
This was new land to Europeans.

He sailed along the rock-girt coast in a northerly direction, noted its promontories and bays, and remained awhile on the flowery banks of Botany Bay. There he

NEW SOUTH WALES.

came in sight of a party of natives, who boldly confronted the clothed strangers, and imperatively ordered them off the hunting-ground of the tribe.

Hurriedly passing the headlands of a neighbouring passage, to which the appellation of Port Jackson was given, after the observing look-out, Cook continued to place upon his chart the features of the interesting shore, and attach thereto names which were destined to bear an importance the navigator then never suspected.

Though the commander, with his two scientific companions, Sir Joseph Banks and Dr. Solander, pursued their voyage onward, rounded the Sandy Spit, careened in Endeavour Bay, and planted the British flag near Cape York, Botany Bay was not forgotten. It was so picturesque in its rocks and plants, so healthful in its atmosphere, and so beautiful in its very loneliness, as to command remembrance.

Botany Bay recommended as a penal settlement. When, therefore, at the Revolution of the American Colonies, whither home convicts had been previously despatched, the Ministry were at a loss what to do with accumulating criminals, the Botany Bay visitors spoke of the suitability of New Holland, this land so exiled from the civilised world, as a fitting place for exiles.

The suggestion was adopted. The New South Wales of Captain Cook was declared a colony of Great Britain, and the bay of aromatic shrubs and curious floral forms was appointed to be the gaol of transported criminals.

The settlement was made in 1788.

For many years after occupation, though surveys of the coast-line were made, little effort was made to extend a knowledge of the country inland. The officers of the Government were naval men, and showed no appreciation of the work of discovery ashore. The tours of Governors were progresses through their little dominion of petty stations, and rarely ventured out of the forest tracks.

It is true that a chase after some runaway cattle led the wandering herdsmen to that rocky amphitheatre, from whose almost perpendicular heights they looked down upon that very haunt of beauty—Illawarra.

There was little enterprise to be expected of such an order of inhabitants as were camped beside Port Jack-

Discovery of Illawarra district.

son. But when the rich flats beside the Hawkesbury were made known, land was granted there for would-be farmers among the emancipated of the party. Broken Bay as well as Illawarra attracted similar attention.

When the policy of the local government favoured a greater distribution of prisoner population, the cause of exploration was advanced, for several stations were established on the coast, as at Newcastle and Port Macquarie, and inland, as at Goulburn.

But it was the energy of private flockmasters that opened up the western country. Messrs. Wentworth, Blaxland, and Lawson, seeking new pastures for their increasing flocks, attempted to penetrate the scrubs that barred the passage over the Blue Mountains. What might be beyond those blue-tinted ranges had excited the curiosity and hopes of these fathers of the flocks of Australia. After some unavailing endeavours, success rewarded their energy in 1813. The heights were scaled, and the rich pastures of the Bathurst plains were gained.

The zeal of private settlers awoke the attention of the authorities, and Surveyor-General Evans was sent to complete the discoveries of the young squatters. He got as far as the Lachlan River in 1815. But others that same year had revealed the lovely Vale of Clwyd, the romantic walls of the Grose, 1,700 ft. in height, with grassy slopes and plains, and soil most tempting to farmers.

Two years after, the next Surveyor, Mr. Oxley, followed along the banks of the Lachlan until the stream was lost in an impenetrable marsh. That he concluded to be the edge of a vast inland sea. Repulsed in an attempt to go to the southward, for the ground was parched by a drought, he boldly declared that New Holland south of the Lachlan was an impracticable desert, and utterly uninhabitable.

Mr. Oxley had a further confirmation of his inland sea theory when he subsequently traced the Macquarie River to a marsh. He was more fortunate in lighting upon the fine Liverpool Plains, with the Peel and Hastings Rivers.

His most important journey was in 1823. Going north of the Hastings he travelled in the beautiful and hilly New England, and first trod upon what is now Queensland. Falling in with some shipwrecked cedar

Discovery
of the
western
plains.

The Lach-
lan in 1815
by Mr.
Oxley.

Supposi-
tion of an
inland sea.

Queensland
in 1823.

4 HANDBOOK TO AUSTRALIA AND NEW ZEALAND.

NEW SOUTH WALES.

Discovery of Brisbane River and Darling Downs.

The Murrumbidgee and Murray.

The Darling, 1828.

Captain Sturt on the Murray.

cutters near the coast, he gathered some information from them, and passed on farther northward. This led to his discovery of the noble Brisbane River, of Moreton Bay, afterwards farther explored by Major Lockyer.

The year after, Mr. Allan Cunningham, the botanist, undertook a tour in a line parallel to that of the Surveyor-General, and obtained the first glance at the Darling Downs of Queensland.

In 1819, a colonial lad, Hamilton Hume, commenced his important career as an explorer. He was skilful in bush-craft, and endowed with much power of endurance. The Murrumbidgee River was first made known to settlers by him.

Proposing a more extended journey southward, Mr. Hume secured Captain Hovell as a companion in 1824. After crossing the Murrumbidgee they came to a longer stream, which they called the Hume, though afterwards found to be identical with Captain Sturt's Murray River. Rounding the spurs of the Alps, which are thrust far westward from the central pile, the travellers marched still to the south, until they gained the shores of a bay. This was asserted by Hovell to be Western Port, and by Hume to be Port Phillip Bay. The colonial young man proved to be correct.

A man of education and science now undertook the work of discovery. This was Captain Sturt, attached to a regiment at Sydney, who secured permission, in 1828, to fit out a party, and who got Mr. Hamilton Hume for a guide.

Taking advantage of some successive seasons of drought, he determined to trace the Macquarie through the marshes seen by Oxley. A channel was easily found, and the Macquarie was followed down till its waters mingled with the Darling.

At the close of the next year, Captain Start induced his Sydney friend, Mr. McLeay, to go with him to the south-west, that they might know the course of the Murrumbidgee. Along this stream they rowed for hundreds of miles, until they were floated into a larger river called the Murray.

They now drifted down the Murray, which turned from a western to a southern course. A large river, coming down from the north into the Murray, was sus-

pected to be the Darling, discovered before. Considerable danger was encountered by the little crew, as the boat made its way between high banks of limestone, lined with suspicious savages.

As the craft was carried into a large shallow lake, the loyal soldier named the water after the Princess Alexandrina Victoria, afterwards the beloved Victoria of the English throne. The rowers were guided on by the roar of the Southern Ocean. But a sandbar caused so rough a sea at the mouth that the Murray could not be safely followed out by the party, who had to return by the route they came.

This great discovery solved the mystery as to the drainage of the western country of New South Wales.

Major Mitchell, Surveyor-General of the Colony, became the honourable rival of Captain Sturt as an explorer.

A prisoner in the Sydney gaol had spoken of a large river to the north-west, which he had seen when a retreating bushranger. The story induced the Major to go in search of it, in 1831. He was brought to the Darling, discovered by Sturt in 1828. Other rivers, as the Gwydir and Peel, were traced to the Darling. Two years subsequently he had the misfortune to lose his botanical companion, Mr. Cunningham. Straying from the party, while looking for plants, he was waylaid and murdered by the alarmed Bogan aborigines.

In 1835, the Major tracked the course of the Lachlan through the marshes where his predecessor had left it. The inland sea was not found there any more than at the Macquarie. The desert of Mr. Oxley also disappeared, for the new Surveyor-General found a fine country by the Murray, and a much finer one still farther south, which he called *Australia Felix*.

While further news of that journey may be learned in the accounts of Victoria, particulars of another successful journey, in 1845-6, are given in the narrative of Queensland.

New South Wales exploration was rewarded, in 1838, by the discovery of the fertile Clarence district. The south-east of the Colony was made known by Count Strzelecki, who crossed over the Australian Alps in 1840, after passing through the rich Monaro plains.

NEW SOUTH WALES.

Lake called
after Prin-
cess Vic-
toria.

Major
Mitchell in
1831 at the
Darling,
Gwydir, &c.

Murder of
Mr. Cun-
ningham.

No inland
sea.

Mitchell
across the
Murray.

Strzelecki
and the
Australian
Alps, 1840.

NEW SOUTH WALES.HISTORY.

The HISTORY of the Colony is one of strong contrasts. Like as in Rome, the early settlers gave rise to a race more noble and energetic than themselves. The famine, misery, and crime of the primitive period have been followed by remarkable prosperity and social advancement. The future is most hopeful at the present stage of colonial history.

The suggestion of Captain Cook, as has been stated, originated the Botany Bay Expedition of 1787.

First fleet arrived at Botany Bay January 18, 1788.

1,044 landed.

Removed to Port Jackson.

Sydney founded.

Rose Hill or Parramatta.

Famine for years.

The first fleet for New Holland sailed from England in May, 1787, and arrived at Botany Bay, January 18th, 1788. There were landed 200 marines and 40 soldiers, in charge of 696 prisoners, 192 of whom were females. Including the wives and children of the military, and 81 free emigrants, chiefly mechanics to instruct the prisoners, there were 348 free people. The total number was 1,044.

Captain Phillip was nominated as the Governor. Disapproving of the Bay as being no safe harbour, he brought the party round a few miles farther into the magnificent Port Jackson.

On the southern shore an encampment was made, which received the name of Sydney, after his lordship, the Secretary for the Colonies. The earliest dwellings were tents, or huts made of wattle branches and clay.

Before the end of the year, a party was sent to the fertile Norfolk Island, so long a penal settlement, and now in the occupation of the interesting and Christian Pitcairn Islanders. A location was formed also at Rose Hill, at the head of Port Jackson, subsequently known as Parramatta, of orange grove notoriety.

The nomenclature of localities was peculiar. Sydney was once commonly known as *the Tanks*, since tanks were fixed in the little stream that supplied the town.

Famine sorely tried the Colony for a number of years. The loss of a store-ship, the neglect of home authorities during the death-struggle with Napoleon, and the failure of colonial crops through mismanagement, caused a serious deficiency of food. The Norfolk Islanders lived some time on mutton birds. The second fleet arrived with stores in 1791, and brought 1,695 male prisoners and 68 female. Governor Hunter, the father of the Colony, first introduced free immigrants.

NEW SOUTH WALES.

The natives.

Conflicts with the natives occasionally cost some loss of life, though very rarely on the side of the whites. While a part of the tribes sunk under the vices they acquired from the Europeans, others sullenly held aloof in remoter districts.

The want of suitable discipline increased the social disorders of the early times. The officers, by their monopoly of the spirit traffic, were fostering the evil habits of those over whom they ruled. Rum became the currency of the period, and led not less to neglect of productive labour than to the commission of crime.

The first chaplain, the Rev. Mr. Johnson, was ill fitted to cope with the moral difficulties surrounding him, though amiable in manners, and Christian in life. After waiting seven years for a place better than the shade of gum trees, where he could celebrate Sunday services, he was constrained to raise a building himself.

His successor, the Rev. Samuel Marsden, was more adapted to the rough circumstances of the place, and displayed a vigour in the cause of religion which brought him many enemies, but which laid the foundation for a happier state of things in New South Wales. Invested with magisterial authority, and led by his energetic mind into business relations, his spiritual influence was lessened, though his contest with Governor Macquarie was of service.

The Rebellion of 1804 originated with some who had been transported for their part in the Irish affairs of 1798. The colonial engagement of Vinegar Hill, near Parramatta, put a speedy end to the rising. But the officer, Mr. Johnston, who crushed the first rebellion, was himself the originator of the second, three or four years after.

Governor Bligh, not the most prudent and mild-tempered of men, had opposed the rum-trading monopoly of military and civil officers in the colony. The New South Wales Corps identified themselves with the merchant class against the country settlers, and withheld the Governor in some reforms he attempted to enforce in a tyrannical manner. Major Johnston marched up the troops, and deposed His Excellency, though afterwards permitting him to retire to a vessel in the harbour.

The Lieutenant-Governors tacitly sided with the

The rum currency.

The first church.

The Rev. Samuel Marsden.

Irish Rebellion of 1804.

Captain Bligh deposed in 1808.

NEW SOUTH WALES.

Emancipists.

Treatment of prisoners.

rebels, and the Government was carried on irregularly till the appointment of General Lachlan Macquarie, in 1810.

Another cause of social disturbance arose, — the question of the civil status of the *Emancipists*, or those becoming free by the fulfilment of the terms of their legal sentence.

Originally, a large amount of the charges upon which the men were transported might be called political. Many suffered exile then for offences only punished now by a brief term of imprisonment. Not a few, besides those involved in the Irish rising of '98, were supposed victims of political faction. Sympathisers with the French revolution then certainly risked an acquaintance with a transport ship bound for Botany Bay.

At the first, all the prisoners were employed on public works. With good behaviour, some got their degree of liberty, called *Conditional Pardon*, before others. To such persons, grants of plots of land were made, so that the means of independent existence might be afforded, though the public store was still open to them for some supplies, in cases of necessity.

The mechanics found abundant occupation in the city, or in official establishments, while another class cultivated their little fields amidst considerable hardships. Thus, there gradually arose from the prisoner population a free people. The descendants of some of the early convicts are now found among the wealthiest and most influential of citizens.

Although an effort was made from the very first to mix a certain number of free emigrants with every shipment of prisoners, yet it was many years before any assisted system of emigration was permitted. But facilities being afforded to capitalists, especially in extensive grants of land, cabin passengers, and not steerage ones, were the earliest Australian immigrants.

When the prisoners were despatched in larger numbers, the Government, to save increased demands on the public stores, granted blocks of land to those who would undertake to employ convicts, merely providing them with rations and clothes, as if slaves on a plantation.

Between the Emancipists, as free by servitude, and the new-comers, as free immigrants, no cordial feeling existed. Some contended that a man who had fairly

Emancipists versus free immigrants.

discharged his obligations to society in the fulfilment of his time, ought to have equal rights with others ; but there were those who claimed superiority on the ground of having paid their passage to the colony.

NEW SOUTH
WALES.

Governor Macquarie espoused the cause of the Emancipists, and earned the title of *the Prisoner's Friend*. Although some excesses followed this policy, the interests of the colony were consulted in it. Ultimately, all free persons were admitted to an equal footing, and the old feud of the Emancipists was lost in the perfect commingling of classes.

Governor Macquarie.

Sir Thomas Brisbane's views were contrary to those of General Macquarie. The immigration scheme received the favour of the Sydney Council, and great exertions were employed to leaven society with free men and women from home. The Colony rapidly improved. So many were the new purchasers for stock, especially after the establishment of the Australian Agricultural Company on a vast grant of land, that a perfect sheep and cattle mania commenced.

Governor Brisbane.

Governor Darling's reign was signalised for the rage of party. Prosecutions for libel against the Government brought the press under harsher restraints, and another administrator, Sir George Gipps, came into collision with the squatters. Both the printer and the squatter triumphed over Government House.

Australian Agricultural Company.

Among the earlier Governors, Sir Richard Bourke deserves honourable mention for his zeal to promote the interests of New South Wales ; and, above all, for the removal of political and religious disabilities.

Governors Darling and Gipps.

The equalisation of denominations in 1836, and the cessation of transportation to New South Wales after 1840, brought a new era to the Colony. Free emigration was promoted, education was fostered, a more liberal policy of home rule was established, agriculture advanced, the wool product greatly increased, commerce grew enormously, social manners improved, and the Colony was as happy as it was prosperous.

Progress of the Colony.

An attempt made to re-institute the system of transportation was repulsed with an energy and a success that indicated the moral forces of the Colony. The citizens protested against even the admission of Emanci-

NEW SOUTH WALES.

No more convicts to Eastern Australia.

Constitu-tion of 1855.

N. S. W. loses Port Phillip and Moreton Bay.

Governors.

GEO-GRAPHY.

pists from Britain, resolving to be in truth the settlement of the Free.

The Gold Discovery of 1851 developed more wealth, as it originated a new industry. It removed the last plea for the English Ministry to send prisoners to Eastern Australia, and brought to a triumphant conclusion the labours of the Anti-transportation League.

If New South Wales did not realise all the advantages she expected from the auriferous display of 1851, she enjoys the distinction of having pointed out a gold-field, and taught Victoria, Queensland, and New Zealand the art of extracting the precious metal from the soil.

The New Constitution of 1855 gave a responsible government to the people, and governors were no longer autocrats.

The laws subsequently passed by the Sydney Legislature have been for the good of the many. Those for the *unlocking* of the public lands have drawn, and will continue to draw, many thousands of immigrants to the country. And though New South Wales lost Port Phillip district in the erection of the Colony of Victoria in 1850, and Moreton Bay district when it became Queensland in 1859, yet the very circumscribing of area has added to internal strength.

Governor Captain Phillip arrived in 1788; Captain Hunter, 1795; Captain King, 1800; Captain Bligh, 1806; General Lachlan Macquarie, 1810; Sir Thomas Brisbane, 1821; Sir Charles Darling, 1825; Sir Richard Bourke, 1831; Sir George Gipps, 1838; Sir Charles Fitzroy, 1846; Sir William T. Denison, 1855; Sir John Young, 1861; Earl of Belmore, 1868; Sir Hercules G. R. Robinson, 1872.

Geography and Climate.

The Dividing Range of New South Wales is properly so called, as it divides the colony into two parts. The eastern is a narrow belt of land by the South Pacific Ocean. The western is the large expanse of plains on both sides of the Darling River.

The East Coast portion has numerous independent streams. The western portion, receiving the drainage of the western side of the dividing range, has three large rivers—the Murrumbidgee, Lachlan, and Darling, whose waters reach the Murray, in the south-west.

The Intermediate, or Highland, portion is nearly parallel with the coast, but extends to the sea at its southern extremity.

The Eastern division, with an irregular coast-line of 750 miles, was the first settled, and has still the largest population. It is 500 miles long from north to south, and from 10 to 80 miles in width. The Highland country contains the wheat-fields and the gold-fields, and reaches from Victoria to Queensland.

The Western Interior has a mean length of 400 miles from north to south, and a mean breadth of 400. It is available for pasturage, but having few farms except on its eastern and southern waters. A considerable part of it, especially on the South Australian and Queensland sides, is still untenanted by the white man. But the soil of the Western Interior only needs irrigation to become a garden.

The Colony is separated from Queensland on the north by the Dumaresq and McIntyre rivers, and the latitudinal line of 29° S. The river Murray, and a line drawn from its source to Cape Howe, cut it off from Victoria to the south. The sea is the eastern boundary, while the meridian of long. 141° E. is the border on the South Australian line.

The area, five times that of England and Wales, is Area. 323,437 square miles, or 206,999,680 acres; of which, in 1878, only 15,035,086 acres had been sold by the Government, and 153,606,400 leased to squatters. A fourth of the colony is yet unoccupied, even by stock. The extreme length from north-east to south-west is 850 miles.

New South Wales once claimed the whole eastern half of the continent of New Holland or Australia. Victoria, under the name of Port Phillip District, was made independent by the Sydney Government in 1850. The northern district of Moreton Bay was separated from the parent colony in 1859, and was called Queensland. These two separations reduced its area to one-third of its former amount. Riverina, toward the Murray, has moved for separation.

NEW SOUTH WALES.

Highland district.

Coast-line.

Eastern division.

Western Interior
400 x 400.

Boundaries.

Length
850.

N. S. W.
one-third
former size.

NEW SOUTH WALES.

Dividing Range and heights.

Other ranges.

Mt. Sea view 6,000 ft.

Heights of peaks.

Rivers.

The Dividing Range is in seven branches. Of these, New England has Ben Lomond, 5,000 ft.; Liverpool Range, Oxley's Peak, 4,500 ft.; the Blue Mountain tier, Beemarang, 4,100, the Cullarin, 3,000 ft., the Gourock, 4,300, the Monaro, 4,010; and the Muniong Alps have Mount Kosciusko, 7,308 ft., and other peaks nearly as high.

The Murrumbidgee Range runs westerly from the Australian Alps, with Mount Murray, 6,987 ft. The Tumut is another spur. The Murray Range of the south-east has the Mount Dargal, 5,490 ft.

The Northern Coast Range, joining the dividing one, reaches 6,000 ft. at Mount Sea-view. The South Coast Range is near the Monaro and Muniong. The Illawarra hills are towards Wollongong.

A number of isolated peaks are scattered about the plains of the interior, and a few low ranges skirt the Darling, or extend into South Australia.

Among the mountains some fine plains are found, on whose fertile soil squatters and farmers have established themselves. But the great plains lie in the low and level country westward, in which a great distance sometimes may be traversed without discovering permanent water, though the grass is generally abundant.

The principal elevations, besides those already named, are Ram's Head, 6,838 feet; Murragural, 6,987; Jagungal, 6,763; Lindsay, 5,700; Gipps, 5,000; Crackembank, 4,697; Canobolas, 4,610; Oxley Peak, 4,200; Jiondulian, 4,300; Apsley, 3,800; York, 3,440; and Hanging Rock, 3,400.

Rivers and Lakes.

The drainage westward of the Dividing Range includes five-sixths of the area of New South Wales, though all the water finds its way ultimately into the one channel of the Murray River.

The Darling alone drains one half the Colony, yet has but a feeble current in summer. If traced through the Barwan, &c., to New England, the course will be nearly 2,000 miles. Its junction with the Murray is at the south-west, near South Australia and Victoria.

The Murrumbidgee, 1,500 miles long, is a noble river, south of the Darling, and unites earlier than that stream with the Murray. The Lachlan, having gold-fields on its eastern end, joins the Murrumbidgee. The Murray, after being the southern boundary, passes through Lake Victoria, in South Australia, to the Southern Ocean.

NEW SOUTH WALES.

The Gwydir, Namoi, Macquarie, Bogan, and Castle-ragh, are eastern affluents of the Darling. The Yass, Tumut, Adelong, and Tarcutta, belong to the Murrumbidgee.

The rivers flowing to the Ocean from the ranges are but short in their course. The principal are the Shoalhaven, Hawkesbury, Hunter, Hastings, Macleay, Manning, Clarence, and Richmond.

The lakes are very few and shallow. The George and Bathurst are to the east, Benarnee and Victoria are very near the Murray, and Cawndilla is by the Darling.

Bays and Capes.

The Port Jackson of Sydney is in about lat. 34° S. To the South of it are Botany Bay, Port Hacking, Wollongong Harbour, Illawarra, Shoalhaven, Jervis Bay, Bateman's Bay, Moruya Bay, and Twofold Bay, which is near Victoria. Bays.

Going northward from Sydney one passes successively Broken Bay, Port Hunter, Port Stephens, Port Macquarie, Trial Bay, and the Clarence Harbour.

Cape Howe is the southernmost point. Point Perpendicular and Cape St. George are the heads of Jervis Bay. Sugar-loaf Point is north of Port Stephens, Smoky Cape is near Trial Bay, Cape Byron is north of Richmond River, and Point Danger is the northernmost land by Queensland. Capes.

Port Jackson is one of the safest, deepest, and most beautiful harbours in the world. Newcastle-coal Port is protected by a breakwater. Few other places on the coast are available for shipping. Port Jackson.

Counties and Districts.

The first settled portion, by the east coast, was divided into twenty counties. Since then about one hundred other counties have been formed. Individually, the old counties contain a little over a million of acres; Old counties.

NEW SOUTH WALES.

each being about 40 miles in width, and 50 to 70 in length.

Those near the coast are St. Vincent, Camden, Cumberland, Northumberland, Gloucester, and Macquarie. Durham, Bligh, and Brisbane are inland. Cook, Roxburgh, Westmoreland, Wellington, Bathurst, Hunter, and Phillip, are western. Georgiana, King, Argyle, and Murray, are south-western.

Sydney is in Cumberland, Newcastle in Northumberland, Orange in Westmoreland, Goulburn in Argyle, Yass in Murray, and Bathurst town in Bathurst county.

The other part of the Colony is generally known by the thirteen Pastoral Districts. Albert is beyond the Darling, and Monaro is the south-eastern Alpine country. The locality of others is indicated by their names. Their areas are thus described :—

Pastoral districts		Square miles
Albert, North-West	.	60,000
Warrego, North	.	10,000
Clarence, North-East	.	5,000
Macleay, East	.	3,180
New England, N. Tableland	.	13,100
Bligh, by Macquarie R.	.	7,800
Liverpool Plains	.	16,910
Gwydir, N. of Liverpool	.	11,075
Wellington, W. of Macquarie	.	16,695
Lachlan	.	22,800
Murrumbidgee	.	26,897
Darling, South-West	.	50,000
Monaro, South-East	.	8,335

The Colony is also divided into seventy-one Police Districts. Riverina is the name given to the squatting country between the Murray and Lachlan Rivers. Its produce is sent down to Melbourne, which port is more convenient to it than Sydney.

Towns.

Sydney, the capital, on Port Jackson, is in lat. 34° S., and nearly 151° E long. Including the suburbs, it now contains about 150,000 inhabitants. It has 150 miles of streets, and its corporation expends 200,000l. a year. Besides two noble cathedrals, it has an extensive university, a grand post office, and some other splendid public buildings. There are six parks, and the largest of colonial botanic gardens.

The harbour of Port Jackson, so universally admired, though containing but nine square miles, has a coast-line of fifty-four miles about its numerous bays. The town is four miles from the Heads.

Parramatta, at the head of the Sydney waters, is charmingly situated amidst orange groves.

Windsor, Penrith, Camden, Richmond, Liverpool, and Campbell town are thriving places near Sydney.

To the north of Sydney are Newcastle, 75 miles; Lambton, 80; Hartley, 82; Wallsend, 85; Raymond Terrace, 92; Maitland, 95; Morpeth, 98; Paterson, 105; Clarence, 114; Singleton, 123; Stroud, 124; Musselbrook, 152; Cessnock, 220; Dubbo, 230; Tamworth, 250; Port Macquarie, 256; Kempsey, 280; Uralla, 300; Armidale, 313; Narrabri, 320; Grafton, 350; Inverell, 350; Glen Innes, 375; Warialda, 380; Vegetable Creek, 403; Tenterfield, 430. To north-west, Mudgee, 168; Wellington, 200; Fort Bourke on the Darling, 570; Wilcannia, 700.

To the south of Sydney are Picton, 53; Wollongong, 64; Mittagong, 70; Kiama, 89; Minmi, 90; Gunning, 165; Queanbeyan, 190; Young, 245; Adelong, 250; Cooma, 257; Moruya, 265; Eden, 270; Kiandra, 310.

To the west are Lithgow, 96; Bathurst, 122; Sofala, 150; Carcoar, 160; Turon, 177; Gulgong, 190; Cowra, 200; Arelaun, 206; Grenfell, 230. To the south-west are Berrima, 83; Marulan, 112; Goulburn, 130; Yass, 180; Braidwood, 185; Forbes, 240; Gundagai, 245; Tumut, 280; Billabong, 290; Parkes, 295; Bombala, 312; Wagga-Wagga, 317; Hay, 460; Deniliquin, 480; Moama, 520; Wentworth, 830; and Menindie on the Darling, 850.

No part of the world can exhibit such a Bill of Health as the hilly settlements of New South Wales, where the mortality has been 9 compared with the English 22 per thousand. The ports of Eden, Wollongong, Macquarie and Grafton are very healthy. Some places in the Alps are from 3,000 to 4,000 feet above sea level. Diggings' townships are now centres of agriculture. The growth of farms westward originates new townships. Wollongong and Kiama are in the lovely Illawarra district. Newcastle is the great coal port.

Deniliquin, the capital of Riverina, is sixteen miles north

NEW SOUTH WALES.

of the Murray crossing at Maoma, and 120 south of Hay, on the Murrumbidgee, 480 miles south-west of Sydney.

CLIMATE.

The *climate* of New South Wales varies greatly according to locality, less from variation in latitude than from altitude. The low coast settlements, especially upon river flats, have a far different climate from that of dry and elevated regions in the interior.

Climate healthy.

The general healthiness of the Colony is thoroughly recognised. Extending from lat. 37° to 29° , it could not be expected to have much exhausting heat or continued cold. It would be easy for a man to select within its borders almost any climate he may think necessary for his health.

The mildness of the winter, especially at Port Macquarie, has made New South Wales a retreat for invalids from Tasmania, and even from Melbourne. In the summer the heat, though thermometrically high, is more endurable than that of places where the heavy rains are in the hot season.

Hot wind.

The greatest plague of the warm season is the *hot wind*. But this is chiefly to be dreaded on account of the dust raised by its fiery breath. Otherwise it is by no means deleterious to the health, there being no dreaded miasma with it. The mosquitoes on the coast, and sandflies of the interior, are to be borne with patiently in a land unvisited by cholera, yellow fever, and hydrophobia, and where delicious fruits are very plentiful.

Many very aged people.

The best answer to the charge of supposed want of salubrity is the number of healthy aged people. In few parts of the world may many persons of very advanced years be seen enjoying life so well. There are few privations to endure, and decidedly diminished infirmities. Among the Blue Mountains, as it is reported, people never die till they are killed. We hear of a man, nearly 100 years old, who had evidently owed no longevity to his sobriety, and who spoke of a neighbour, 108 years of age, being without an unsound tooth in his head.

Fewer sun-strokes than in America.

The sky is usually clear of clouds in summer. Sun-strokes, however, are not relatively so fatal there as in Canada and the United States.

The intemperate character of the people, especially in early days, has been far more destructive of life than the

climate. The custom of indulgence in strong drink is now yielding to moral pressure, and, consequently, the charges brought against the climate are fewer. Some have lived there till above 110 years.

Diseases most common to the Colony, as dysentery and nervous attacks, are often trying to young children and females. Heart and brain affections trouble the stronger sex more than the weaker one.

In 1877 the deaths were 5,877 male, 3,992 female. Those from diphtheria, 205 male, 120 female; typhoid, 375, 189; dysentery, 162, 57; diarrhoea, 586, 261; ague, 22, 2; rheumatism, 58, 23; syphilis, 18, 7; alcoholism, 109, 22; gout, 10, 4; dropsy, 141, 61; cancer, 167, 65; scrofula, 33, 14; phthisis, 585, 226; apoplexy, 171, 68; paralysis, 176, 64; convulsions, 502, 247; brain disease, 114, 28; heart, 425, 161; bronchitis, 423, 180; pneumonia, 398, 151; congestion of lungs, 107, 41; asthma, 30, 6; enteritis, 223, 107; stomach, 31, 12; liver, 113, 81; skin, 5, 1; child-birth, 99; old age, 501, 151; atrophy, 544, 237; accidents, 648, 133; murder, 21, 6; suicides, 60, 7; execution, 1. The female deaths, 3,992, are less than their ratio of population by 450.

A statement made for the whole Colony gave the causes for death in the year as follows: zymotic diseases, 23 per cent.; constitutional, $12\frac{1}{2}$; local, $37\frac{1}{2}$; developmental, $17\frac{9}{16}$; violence, including accidents, $7\frac{1}{4}$.

The rain register varies considerably in the Colony. It is affected not only by elevation and presentation to prevailing winds, but by other and more subtle influences.

Along the coast-line the greatest humidity is found. In 1871 the following results were obtained: Twofold Bay, $53\frac{3}{4}$ inches in 131 days; Cape St. George, 62 in 150; Wollongong, 48 in 75; Sydney Harbour, $46\frac{3}{4}$ in 83; Sydney Town, 52 in 141; Newcastle, $62\frac{1}{2}$ in 116; Port Macquarie, $57\frac{1}{2}$ in 120.

In 1872, a dry year, the difference was remarkable: being for Twofold Bay, $24\frac{1}{2}$ in 107 days; Cape St. George, 37 in 138; Wollongong, $28\frac{1}{4}$ in 48; Sydney, 37 in 161; Newcastle, $37\frac{1}{4}$ in 128; Port Macquarie, $47\frac{1}{4}$ in 138. Heavy snow fell near Syduey in 1872.

Away from the sea the variation is considerable, and

NEW SOUTH WALES.

Drink and climate.

Diseases in the Colony.

Rainfall.

Heavy snow fall.

NEW SOUTH WALES.

often apparently unaccountable. The subjoined table gives the nearest distance to the ocean for 1878:—

Rain in various districts.		Miles from sea	Elevation	Inches rain	Days of fall
Sydney	5	150 ft.	49	129	
Maitland	18	98 "	42	95	
Grafton	22	40 "	38	80	
Windsor	30	58 "	36	120	
Goulburn	54	2129 "	28	67	
Tenterfield	80	—	29	59	
Armidale	83	3278 "	35	93	
Murrurundi	94	1545 "	32	65	
Bathurst	96	2200 "	26	80	
Mudgee	120	—	37	86	
Orange	124	2891 "	50	110	
Wagga-Wagga	160	—	20½	64	
Albury	175	572 "	32	92	
Dubbo	182	—	23	47	
Narrabri	196	—	36	65	
Deniliquin	287	{ 410 " in 1873 }	28	60	
Cowga	336	—	5½	15	
Fort Bourke	393	—	13	35	
Wentworth	476	—	9	47	

On the Bogan River, during five years, there fell no rain for thirty-seven months. Five inches only of rain fell at one place near the Darling during five years.

Great falls of rain have been experienced at Sydney. On April 29, 1841, there fell 20 inches of rain, and on April 8, 1860, 12½ inches. In 1841 Sydney received no less than 76 inches, and in 1860, 82. The lowest amount, 36 inches, was in 1865. In April 1874 there fell 7 inches of rain one night in Sydney. When Sydney had so much rain, Port Macquarie had but little. A pretty uniform extent of rainfall has been noticed during cycles of 19 years; that is, from 1840 to 1859; 1841 to 1860; 1845 to 1864. Evaporation exceeds the rainfall greatly.

A mean of several years gives this result:—

Grafton	38·2 inches in 88 days
Bourke	27·9 " 46 "
Tenterfield	30·8 " 85 "
Wollongong	38·3 " 62 "
Eden	45 " 132 "
Mudgee	28 " 68 "
Kiandra	61·2 " 110 "
Albury	28·9 " 80 "
Macquarie	63·3 " 189 "

		26	inches in	73 days	NEW SOUTH WALES.
Cooma		18·4	"	94 "	
Deniliquin		26·4	"	64 "	
Goulburn		26·3	"	96 "	
Maitland		34·7	"	109 "	
Newcastle		49·9	"	113 "	
Parramatta		39·3	"	111 "	
Sydney		50·9	"	161 "	
Windsor		34·3	"	140 "	Rain.

The ozone is greater in the night than in the day. Ozone.
At Sydney, in 1872, the highest was 5·54; mean 4·8.
It is highest in the east wind, and lowest with the dry western breezes, when colds and influenza prevail.

The temperature is often more a question of physical Heat. condition of the country than mere latitude. Winds modify it considerably, elevation lowers it, while rocks and soil affect it. A sandy region is opposed to one of heavy clay; and a sandstone, limestone, granite, basalt, or slate surface will make one place hotter or cooler than another. An increased evaporation is a modification of temperature. The north-west monsoon is dry and hot wind.

The mean temperature of Sydney is 62·5°; Grafton, 68°; Armidale, 56·9°; Cowga, 70·9°; Bathurst, 57·2°; Newcastle, 63·9°; Maitland, 62·5°; Port Macquarie, 63·7°; Liverpool, 59·9°; Deniliquin, 59·9°; Albury, 59·8°; Parramatta, 62·2°; Mount Victoria, 54·2°; Kian-dra, 45·1°; Goulburn, 55·6°; S. Head, 61·7°; Eden, 60·3°; Wagga-Wagga, 60·2°; Lake George, 56°.

The difference between the maximum and minimum heat in the shade is considerable in some localities, as may be seen from the appended table :— Max. and min. tem-perature.

Towns,		Max. shade	Min. shade
Bourke		105°	36°
Bathurst		100°	20°
Deniliquin		115°	40°
Eden		106°	39°
Goulburn		103°	22°
Maitland		103°	35°
Port Macquarie		95°	36°
Wagga-Wagga		104°	29°
Wentworth		117°	30°
Wollongong		87°	37°

With the lowest mean temperature in 1854, there was

NEW SOUTH WALES.

Winds.

the least rainfall; and with the highest, in 1867, the rain was the most abundant.

The winds off the coast are usually eastern, or sea breezes, in the day, and light western, or land breezes, in the night. North of Port Macquarie the region of the South East Trades is gained. The westerly breezes prevail in the winter, and in the interior the principal winds are from the north and west. In a so-called southerly *burster*, or storm, in hot weather, the clouds roll up in a peculiar manner seaward, and vast collections of dust fill the atmosphere before the rain falls, and the temperature cools. The easterly and southerly winds bring rain. The winds are generally N.E. in January, December, October, November; S. in February; E. by N. in March; W.N.W. in July and August; W. in September, June, May, April. N.E. is deflected S.E.

Mr. H. C. Russell, Sydney astronomer, says:—‘When the barometer falls gradually with N.E. wind, it will veer to N.N.W. and W., where it will blow for one or more days; as the barometer rises, it will veer to S., and die at S.E. or E., with high barometer; to begin another circle from N.E. If in fine N.E. weather the barometer falls fast in the forenoon, a southerly wind (*burster*) may be expected before night.’

The extreme variation at Sydney during 18 years’ observation of the barometer, was from 28°.901 to 30°.678. A great depression W. to E. went 500 miles a day.

A high barometer in New South Wales shows a southerly wind coming, while in England it indicates a northerly one. But the rule is only apparently reversed, as in both cases the wind is from the nearest pole. It is lowest in Australia with the N.W., or true tropical wind, and highest with the true Polar, or S.E. wind. A low barometer points to westerly breezes in summer and winter; a high one in winter, to southerly breezes.

The colony is not so often visited by storms as England, and thunder and lightning are less frequently known. The dip of the needle at Sydney is 61°, while 35° at Port Essington, and 67° at Melbourne. The variation is about 10° E. The South Magnetic Pole is in lat. 75° S., long. 154° E. The great magnetic storm on September 25, 1841, was simultaneously felt at Sydney, Swan River, China, and Canada. Variation decreases.

Barometer rises in N. S. W. when it falls in Europe.

Needle and variation.

South Magnetic Pole.

Geology.

The Geology of New South Wales, to do it justice, requires far more space than can be given to it in the present work.

The first five-and-twenty years of the Settlement passed with but a small idea of the geology of New South Wales. The people were spread abroad upon the Sydney sandstone, which produced better flowers than corn, whilst their finest farms were on the alluvial flats of the Hawkesbury.

It is true that coals were known to them as being at Newcastle, while veins of porphyry and basalt were disclosed in their sandstone quarries; yet it was not until the fastnesses of the Blue Mountains were forced by the intrepid Wentworth and his companions that the Colony gained an enlarged experience of geology. The slates were then seen thrown into romantic forms by the elevating power of plutonic rocks, cutting off the sterile flooring of sandstone, and revealing vales of fertility and nooks of beauty.

The flocks and herds exchanged the sparse pastures of the east for the richer grasses of the west; and the hills of Bathurst, with their geological equivalents further westward and southward, gave new homes to immigrants.

Descending from those fair plateaux on the other side, the crowded-up squatters wandered at large upon vast plains that, though less favoured by rain, gave food for their increasing sheep and cattle. But it was many years before those extensive tertiary deposits to the westward of the Dividing Range were known, and that flocks browsed beside the Darling, Murrumbidgee and Murray of the wastes.

Wool was the first product of lands whose phosphates were afterwards made available for grain and fruit. Then the rock, which had so long resounded only with the tramp of wild cattle, was struck by the pick of miners for its repository of metals.

The sandstone quarry and coal-seam were wrought for fifty years before the granite and metamorphic slates disclosed their golden crystals; and longer still, by

**NEW SOUTH
WALES.**

Colonial
geology
gradually
unfolded.

Sydney
sandstone.

West conn-
try.

Tertiary
plains.

NEW SOUTH WALES. twenty years, before the primary rocks were blasted for their treasures of tin. Stream tin is pliocene.

Gold before tin. Three ages were successively revealed. The original settlers trod upon the secondary beds. Then the highlands of a higher antiquity were brought into requisition. Last of all, the far more extended area of the tertiary clays and sandstones were recognized by the wandering herdsmen.

Silurian rocks. The oldest rocks are of Silurian order ; consisting of sandstone, limestone, &c., in some cases highly metamorphosed. Wenlock strata are represented in the Australian Alps. The meridional strike of the ancient sedimentary beds is very curious. The bushman finds a guide in the north and south reefs running for miles parallel to each other. Devonian is 10,000 feet thick.

Devonian. These Silurian rocks form the floor of the diggings. The Devonian formations, observed near Yass and at the Hanging Rock, exhibit the Productæ in great force. The purple slates of Twofold Bay belong to this period.

Paleozoic hills. The Blue Mountains, the Liverpool ranges, and the Alps, as well as the Grey and Barrier ranges on the South Australian border, are Paleozoic. Here and there, amidst the great expanse of tertiary beds to the west, similar rocks obtrude themselves.

Secondary formations. The *secondary* formations are not altogether absent, though but recently recognised. The trias is unmistakable at the Clarence, where it once occupied a much larger area, and the upper carboniferous rocks near Parramatta are unquestionably mesozoic or secondary.

Tertiary deposits. Tertiary exhibits are common enough to the westward, though so rare to the eastward. Certainly, three-fourths of the surface of the Colony is covered with them. This is clear from an inspection of the country of the Darling, Murrumbidgee, Lachlan, and Murray Rivers, though their head-waters are generally in a primary district.

But throughout the western plains a number of isolated hills and ranges, much transmuted by basaltic veins, porphyry, quartz, &c., rise as landmarks. The flat-topped, sandstone rocks of the elevations of the interior are of a secondary age, though their base may be paleozoic, and they afford evidences of great denudation.

So immense is the deposit of sands, gravels, marls, and clays on the western side of the Dividing Range, that

there is the assurance of a climatic condition very different from that now prevailing in New South Wales, with its dry and thirsty plains. A well on the Billebong was sunk 160 feet through clays, quartz, gravels, pipe-clay, white and coloured sands, with coloured marls. From Wagga-Wagga westward, the Pliocene is prevalent, as it is on the Bogan, Darling and Murray, as well as at the junction of the Lachlan and Murrumbidgee.

NEW SOUTH WALES.

Tertiary beds.

There is not observed that difference between the strata of the tertiaries detected in other places, but they pass almost insensibly one from another, as of one continuous epoch. It is a remarkable fact that no tertiary marine plants have been seen in the east, though common in the western part. But there are plant deposits near Yass, and leaves' beds by Peel and Richmond Rivers. Lignite, too, is seen some 40 miles north of Cape Howe.

The Pleistocene is noticed in the drift-boulders which rest on gravels. Cave deposits are of this age. The red earth in Wellington caves is rich in fossils of animals related to those now common in the bush. Alluvial gold-workings are not so absolutely Pliocene in New South Wales as they appear to be in Victoria.

Pleistocene.

The granites are regarded as of subsequent age to those of the primary rocks. The Rev. W. B. Clarke, the most eminent of colonial geologists, not only declares that he has known of no primary granites, but ventures to doubt if any one else has.

Alluvial gold not all Pliocene.

Granite.

These rocks predominate in the Alps to the south, and in New England to the north. Near Cape Howe fine flesh-coloured varieties may be seen. On the west side of the Dividing Range, they are distinctly newer than the slates. Some specimens, as at Genoa River, are so hornblendic as to be taken for greenstone. As sienites they crown the head of Kosciusko, 7,300 feet high, though said to be obviously of an intrusive character. Occasionally binary granite may be detected piercing through granite mountains. The porphyritic granite constitutes the Crackenback ranges. The lofty top of Jingery shows a meridional axis of granite.

Kosciusko sienite
7,300 ft.

At Birri-Birri the rock, being so ribboned with gneiss-like laminae, would lead one to infer that the granite there once flowed as lava. On the Upper Murrumbidgee the granite often entangles fragments of mica-slate. The

NEW SOUTH WALES.

plasticity of the granite in some places would hardly seem due to simple fusion. The epidote throws some light on the character of the eruption. Fine double pyramids of quartz may be gathered at Pambula. There are hornblendic granite hills near the Billabong.

Metals in granite.

The granite is one stronghold of gold and other metals. The tin of New England is derived from it. The iron pyrites of granite is rich in gold, which is found also in the siliceous matter of sedimentary beds, where cemented by iron derived from decomposed pyrites.

Gold rocks.

The auriferous veins in granites, slates, &c., have, naturally enough, excited the liveliest interest in all colonial geologists. The lower Silurian is richer in gold than the upper rocks of the same. While some miners fancied electricity or volcanic agency had produced the yellow treasure in the rock, Mr. Clarke thus records his experience in New South Wales :—

Origin of gold veins.

After saying he had ‘seen examples where quartz reefs have followed the curves of the slates in all their minor as well as larger deviations from verticality to horizontality, arching at the summit, not only synclinally but spherically,’ he declares, ‘I can come to no other conclusion than that such lodes, with their mineral contents, could by no possibility have received their existence by sudden infilling or injection at a subsequent date.’ He further adds, ‘There is nothing whatever to justify the belief that dry heat or direct igneous forces have, as some persons have surmised, been the chief or solitary agent in the production of the gold-bearing reefs.’

Igneous rocks.

Igneous rocks are prominent, not only in the great ranges, but are conspicuous in the coal rocks throughout the Colony, and have exercised their transmuting influence upon tertiary formation. The east coast is sinking.

Porphyries and basalts are found of various epochs. Lavas and tufas are of more modern history. Pumice fragments are gathered at Wollongong and Jervis Bay, as in other parts of the east coast of Australia. Found water-worn, and on raised beaches, their advent on the shore is not very recent.

Basalt.

The basalt at Kiama has the pillar steps of the Giant’s Causeway and the massive columns of Staffa. Bosses of it have risen above granite on the eastern edge of the Dividing Range, and intrusive veins are conspicuous in

Alpine Monaro and the Upper Murrumbidgee, as well as throughout the coal measures. The Tumbarumba range, basalt, 20 miles long, and 350 feet deep, proceeded from craters in the range between the Murray and Tumut rivers, where there are belts of basalt. Columns mount upward 5,000 ft. above the sea.

Greenstone is not so abundant as in Tasmania. In dykes it cuts through the granite of Naas Valley, and altered sandstone to quartzite at Mount Tennant. When coming in contact with granite, sometimes ferruginous cannon-balls or grape-shot are formed from the decomposition of the rock.

Trachyte or trachytic diorite forms the end of Mittagong range, and crowns the head of Mount Lindesay. Elvan dykes at Illawarra, Murrurundi, &c., have converted the coal into coke. Phonolite columns are seen by the Gwydir, as well as in the volcanic islands of Norfolk and Phillip. Porphyry, like a tessellated pavement, comes forth in the harbour of Port Jackson, and re-issues from beneath a bed of sandstone at the Bay of Bondi. All about the various gold-fields the igneous element is in strong development. Moyle's hill is igneous with quartz. Volcanoes were active in pliocene days.

Volcanic ashes appear near Mount Lindesay, Maitland, and many other localities. Mud craters were described in 1852, as existing at Keewang Creek; and trappean alluvial mud constitutes the soil of some of the best plains. No active volcano is known in the Colony, and the number of cones and true craters is very inferior to that in Victoria. The peaks of Cordeaux, Edwards, and Grenville belong to the rim of a broken-down volcano. The burning Mount Wingen, however, is in coal.

The carboniferous rocks are the most interesting of all. Mr. Keene, Inspector of Coal Mines, writes, 'We may, without boasting, claim to rank with the most extensive coal-fields in the world.' Nearly all the area of the settled district is carboniferous sandstone. The mineral is in greatest production along the Hunter River, though it is imagined to run beneath the tertiary floor of the western region. It is upper palaeozoic.

A lengthened discussion took place as to the age of the coal of New South Wales. Prof. M'Coy, though not visiting the locality, contended for the oolitic cha-

Trachyte,
phonolite,
and por-
phyry.

Volcanic
ashes.

Craters
fewer than
in Victoria.

Coal.

NEW SOUTH WALES.

Coal rocks of three ages.

racter of the mineral ; while Mr. Clarke, with better knowledge of the rock, affirmed it to be palæozoic or true coal. The opinion of the last-named gentleman is now generally acknowledged as correct. The fossils found in the beds are decidedly palæozoic, though some forms bear a mesozoic likeness. Greta is lower coal.

Above the ordinary workable coal measures, Mr. Clarke has discovered a series of horizontal sandstones, shales, and conglomerates, to which he has given the name of Hawkesbury rocks. They are very well developed on the summits of the Blue Mountains, being estimated nearly a thousand feet thick. On the top of these, again, the Wianamatta beds of black shales may here and there be noticed, even to the depth of eight hundred feet. No mesozoic fauna has been found in these upper carboniferous rocks, which are placed in the same age as the coal measures of Victoria. But no *Glossopteris* has been perceived in the Hawkesbury or in the Wianamatta beds. Wianamatta is near Parramatta. It is singular that, while much iron exists in the upper carboniferous formation, gold is not absent from it.

The Newcastle coal-field of the Hunter is but the western side of the great geological basin, the chief part of which is now beneath the ocean, and doubtless reappears in New Zealand. The carboniferous rocks in Gloucester county rest upon slate. In one pit the following strata were successively penetrated : conglomerate 23 feet, coal 3, grit 44, coal 5, claystone 43; coal 5, sandstone 50, coal 3. Near Port Stephens a seam was 30 feet thick. In the Upper coal of Newcastle there are 17 seams in 433 feet. Coal rocks contain gold.

Coal strata.

The oil is an abundant product of the coal formation. The shales yield a large supply. They belong to both the upper and the lower measures, though to the former in the east. Wollondilly has rich brown oil cannel ; but the cannel coal of Mount York, in the Blue Mountains, is more easily worked. The kerosene rocks of Illawarra resemble the Boghead of Scotland.

Kerosene.

This carbonaceous substance is sometimes filled with sandy particles. The stone is distinguished by leaving a brown mark when scraped with a knife. The seams at Hartley are 5 feet thick. At Bournda, near Pambula, the inflammable mud is of lacustrine origin. Forty

Bog butter.

miles further north a bog butter is obtained. In a certain quantity, the clay forms 15 parts, water 48, carbon 8 $\frac{1}{2}$, tar-oil 8, gas 19. The tar-oil is butter-like. Sydney rock is being pierced for coal 2,000 feet.

The fossils of the Colony are not different from those found in the neighbouring settlements. Fossils.

The Silurian forms are similar to those of Europe and America. Trilobites are not uncommon. There are 240 species of fossils associated with the Trilobite at Burrugood. The Queanbeyan sandstones are full of spirifers and other Silurian life.

The coal measures contain Heterocercal fish, Fenestella, Phyllotheca, Stigmaria, Sigillaria, Calamites, Lepidodendrons, Productæ, Eurosthenes, Corals, Zoophytes, &c. The Ichthyolites are similar to the palæozoic forms of Europe. Secondary fossils are now known.

Remarkable fossils have been disinterred from the floors of caves, especially the caves of Wellington, Molong, Macleay, and of the Upper Murrumbidgee. In these breccia and limestone caverns there is the evidence of two submersions. At Molong the fossil bones were lying in calcareous concretions, and at Wellington in the red earth of the floor. Fish and leaf beds exist. Cavefossils.

Among the remains were the seal, the kangaroo, the wombat, &c. The kangaroo was fully one-third larger than any kind now existing, and the ancient animal could have leaped 30 feet at a bound. Fossil kangaroo.

The herbivorous Diprotodon must have been very widely spread throughout Eastern Australia, being discovered as a fossil at Molong, Wellington, the Turon, Liverpool Plains, &c. A large specimen was brought up from a well dug 100 feet through the Darling sandstone. This marsupial, with kangaroo teeth, was about 16 feet in length. Its hind legs were like those of the wombat. In the anterior limbs, two fingers are adapted to grasping objects. It was doubtless of similar habits to the ancient mylodon, walking up to a tree, clasping it to bring it down to the ground, when it could feed upon the tender branches. Diprotodon.

The Notatherium, or south-beast, had elephant-like teeth, with a skull not unlike that of the South American megatherium. The zygomatic arch was a great distance from the temporal bone. The brain was of small dimen-

Notatherium.

NEW SOUTH WALES.

sions. Fossil bones have been gathered from the auriferous drift of the Turon gold-field.

Marsupial lion.

A formidable carnivorous *Dasyurus*, found in the caves, must have been a destructive foe to the monster kangaroo. The *Thylacoles carnifex*, or butcher-pouched lion, also devoured the herbivorous marsupials of olden times. Crocodiles seem to have been widely distributed in those later tertiary epochs, some of them being 20 feet in length. There were emu-like birds—now extinct.

Unchanged flora and fauna.

As truly observed by Dr. Owen, the conditions of life have changed but little since the diprotodon fed upon the plains of New South Wales. The present flora and fauna of the country are, however, not very different from those prevailing during the Eocene age of Europe.

Nearly all marsupials.**Natural History of Australia.**

The fauna of Australia is entirely distinct from that of any other part of the globe. It constitutes, as it were, a separate zoological province, characterised by the low organisation of its animal forms. Its main distinguishing feature is, that a very large proportion of the mammals—nearly the whole of them, in fact—belong to the ancient marsupial type; that is to say, they are furnished with a natural pouch or pocket in which to carry their young; and, where the pouch is not obvious, the marsupial bones are recognised, thus showing the same morphological character. The ornithology also is characterised by the presence of certain strictly endemic genera of a very low order—the *Leipoa*, *Talegalla*, and *Megapodius*—birds which do not incubate their own eggs, but simply deposit them in earth-mounds, and leave them to be hatched by the heat generated through the fermentation of decaying vegetable matter.

Non-incubating birds.

This feature in the ornithology, taken also in connection with the low organisation of the Australian botany, as indicated by the almost entire absence of fruit-bearing trees, is quite consistent with the exceptional character of the mammals. It is generally believed that the marsupial or pouched tribes represent the oldest forms of quadrupeds. Fossil remains, which have been found in France and England, clearly indicate the presence of marsupials at a very early zoological period,

when mammalian life was, as we suppose, in its infancy. At the present day, with the exception of a few American species allied to the Australian dasyures, and a few other small marsupials which still linger in New Guinea, and some of the islands of the Pacific, the only portion of our earth tenanted by these ancient forms is this island-continent of Australia. The researches of Mr. Gerard Krefft, the Director of the Sydney Museum, have established the further interesting fact that the early predecessors of these animals in Australia were also marsupials, but of enormous stature, equalling, if not exceeding in size the rhinoceros and the hippopotamus. The living species, however, are of more moderate growth, and the largest do not much exceed 200 lbs. in weight. They have been divided into three main sections, viz. the carnivorous, or flesh-eating; the herbivorous, or grass-eating; and the mixed feeders; and according to the latest published list, they embrace 110 different species. These include the kangaroos proper, the largest of which is a formidable animal, and affords good hunting; the wombats, which are nocturnal in their habits; the 'koala,' or 'native bear'; the opossums, and the phalangers, or 'flying opossums'; the bandicoots, and the carnivorous dasyures.

There are eight species of large kangaroo (*Macropus*), Kangaroos. inhabiting various parts of the country, some being confined to the plains of the interior, and others to the rocky districts near the coast. The great red kangaroo of South Australia often attains a weight of 200 lbs. or upwards. There are seventeen species of *Halmaturus*, kangaroos of smaller size, varying in weight from 10 to 15 lbs. The mountain districts are inhabited by rock-wallabies, or rock-kangaroos; there are six well-determined species, and the largest of these attains a weight of 30 lbs. Next in order is a group of small silky-haired kangaroos (*Onychogalea*), comprising three species, all of them confined to the plains of the interior. They are about the size of a common hare, weighing from 8 to 10 lbs., and are covered with a light grey fur of peculiar softness. Of the so-called 'hare-kangaroos' (*Lagorchestes*), the fleetest jumpers of the whole tribe, there are five species, three of which are restricted to Western Australia. Then, again, there

NEW SOUTH
WALES.

Huge fossil
marsupials.

NEW SOUTH WALES.**'Rabbit-rat.'****Pig-footed bandicoot.****Opossums.****Wombat.****'Native bear.'****Tiger-wolf.****'Native devil.'****'Native cat.'**

are five closely-allied species of jerboa-kangaroos (*Bettongia*), a peculiar little group, which appears to connect the kangaroos with the opossums. The rat-kangaroos (*Hypsiprymnus*) and the bandicoots (*Perameles*) embrace about a dozen more species. These are all of small size, and are very generally distributed over the country. The 'rabbit-rat' of the colonists (*Peragalea lagotis*) belongs to this group. It lives in pairs, and burrows underground, like the common rabbit, differing altogether in its habits from the rest of the family. Another very aberrant form is the pig-footed bandicoot (*Chæropus castanotis*), which has only two functional toes to the fore-feet, while it possesses a dentition resembling that of the carnivorous section, the Dasyures. Six species of opossum inhabit Australia; they are all arboreal, and feed on the young shoots of the gum-trees. Of the *Phalangers*, or 'flying opossums,' there are numerous kinds, varying in size from a length of three feet to three inches. The wombat (*Phascolomys*) is the largest of the marsupials, next to the kangaroo. It is a stout-built powerful animal, terrestrial and nocturnal in its habits, living in deep burrows in the earth. There are four species known. The 'koala,' or 'native bear,' of the colonists (*Phascolarctos fuscus*), dwells in the gum-trees, on the leaves of which it feeds. The brush-tailed ant-eater (*Myrmecobius*) is a beautiful little banded creature, living in the desert scrubs. There are three genera of carnivorous marsupials, the two first of which, the 'tiger-wolf' (*Thylacinus*), and the 'native devil' (*Sarcophilus*) are most ferocious animals, and inhabit Tasmania. The *Dasyures*, vulgarly called 'native cats,' are much smaller, prettily spotted with white on a brown or black ground, and are numerous in all parts of Australia. It is a singular fact that all, or nearly so, of the pouched animals of Australia are nocturnal in their habits, with the exception of the kangaroos. By far the most remarkable and anomalous of all the Australian mammals is the duck-billed *Platypus*, or 'water-mole.' It is about twenty inches long, is covered all over with soft brown fur, has strong claws and web-feet, and is provided with a pair of broad mandibles like the bill of a duck. It inhabits rivers and ponds, and breeds in deep burrows on their bank.

This strange creature seems to present a link between the quadruped, the bird, and the reptile, and belongs to the lowest form of existing mammals—a class named by naturalists *Monotremata*—in which also another extraordinary Australian animal is included, the *Echidna*, or porcupine ant-eater, of which two species have been discovered. Amongst the placental or non-pouched animals are several forms of rodents, of which the singular ‘beaver-rats’ (*Hydromys*) are the most conspicuous. There are also nine species of long-eared rats (*Hapalotis*), which build nests in trees and bushes; and fifteen of the short-eared kinds (*Mus*).

Porcupine
ant-eater.

In addition to the animals already enumerated, Australia possesses some twenty-five species of bats, belonging to eight distinct genera, amongst which is a very large frugivorous bat, of the genus *Pteropus*, known as the ‘flying fox’ of the colonists. The ‘dingo,’ or wild dog, is to be met with in all parts of the Australian continent, although it is gradually disappearing throughout the more settled districts. It is about the size of an ordinary foxhound, and has a wolf-like aspect. It is of a reddish-chestnut colour, the tail being invariably tipped with white. It never barks, but utters a dismal, melancholy howl. It is nocturnal, and has long been the terror of the sheep-fold, especially in the earlier days of sheep-farming. Although it is asserted that the fossil remains of the ‘dingo’ have been found associated with those of the great extinct marsupials of past pleiocene times, it is still very doubtful whether this animal should be regarded as strictly indigenous to Australia. It is more probable that the original stock has made its way, at some remote period, in connection with man, across the narrow seas that separate Australia from the Asiatic islands.

Beaver-
rats.
Nest-build-
ing rats.

Several species of seals, including the ‘sea-lion’ (*P. jubata*), and the ‘sea-leopard’ (*Stenorynchus leptonyx*), are found, though rarely, on the less frequented portions of the coast; and the bays of Queensland are inhabited by a singular marine animal (*Halicore dugong*), known as the ‘dugong,’ or ‘sea-cow’ of the settlers. Belonging to the family of the whales and porpoises, it presents also some of the characters of the seal in its general aspect. It is much sought after for its oil, and feeds upon marine grasses.

Bats.

Wild dog.

Dugong.

NEW SOUTH WALES.*Birds.**Migration of species.**Parrots.**No wood-peckers.**Eagles.**Swallows.**Bee-eater.**King-fishers.**'Laughing jackass.'**Wood-swallows.*

In their variety of form, beauty of plumage, and peculiarity of habits the birds of Australia stand unrivalled. The number of species already known, as enumerated by Mr. Gould, amounts to nearly 700, the vast majority of which are peculiar to the country. As in Europe, many species are migratory at certain seasons of the year; whilst others disappear suddenly, are not met with for a lengthened period, and then again reappear in vast numbers. Enormous flocks of parrots and pigeons, of species previously unknown to the locality, will, during certain years arrive in places all at once, remaining for a few weeks, and then departing as mysteriously as they came. No country in the world is so rich in birds of the parrot tribe, of which there are not less than sixty species, most of them remarkable for the extraordinary splendour of their plumage. The honey-eating genera are also very largely represented, and some of the forms attain to a size quite unknown in any other country. The total absence of woodpeckers is remarkable. Amongst birds of prey Australia can boast five species of eagle, and numerous falcons and hawks. The wedge-tailed eagle (*Aquila audax*) measures seven feet across the wings; and the white-bellied sea-eagle (*Poliaeetus leucogaster*) is also a noble bird. Of owls there are about ten species, their number being attributable to the abundance of small nocturnal quadrupeds. Goatsuckers are in great variety; and two species of swift, and five of swallows and martins, are summer visitants. The Australian bee-eater (*Merops ornatus*) is a beautiful bird, only making its appearance in the South during the summer months. Kingfishers number thirteen species, amongst which the great brown kingfisher (*Dacelo gigas*) is remarkable for its size and the peculiarity of its note. This amusing and well-known bird is familiar to the colonists under the sobriquet of 'the laughing jackass.' Quietly perched on some dead bough, its extraordinary gurgling 'laugh,' commencing in a low key and gradually rising to a high and loud tone, may be heard at sunrise and sunset in all parts of the 'bush.' The *Artamus*, or wood-swallow, has the singular habit of clustering like bees on the branch of a dead tree.

Another familiar bird, almost as popular with the

settlers as the 'laughing jackass' is the 'musical magpie,' or piping crow. It derives its name from its pied black and white plumage; and the fact of its being so easily taught to whistle popular airs, together with its imitative powers, has rendered it a general favourite. It has been asserted 'that the Australian birds have no song,' but nothing can be more untrue, for many of them have very sweet notes, singing both by day and night. In the dense forests of the Illawarra mountains, and also in the impenetrable fastnesses of Gippsland, there dwells a most remarkable songster, possessing also the power of mocking the notes and cries of all the other denizens of the woods. It is the 'lyre-bird,' or mountain-pheasant (*Menura superba*). It is about the size of a small fowl, of a brown colour, the male being adorned with a very large and curious tail, resembling in form that of an ancient lyre. A droll little bird, known as the 'pheasant's mother,' is usually seen in company with the lyre-bird. The 'coach-whip' bird inhabits the thick 'brushes,' and has a loud full note, ending sharply like the crack of a whip. The robins of Australia, of which there are a great variety of species, are gorgeously-coloured birds, with breasts of the most brilliant scarlet, yellow, or rose-colour. The wrens are wrens. The wrens are equally numerous, and vie with the robins in the exquisite beauty of their turquoise-blue and velvety-black plumage. Many of the finch family are also interesting for their very handsome plumage, and from the fact that they are easily tamed, and thrive well in captivity. No less than fifty-eight species of honey-suckers are known, varying in size from that of a thrush to that of a wren; several kinds have singular fleshy appendages below the ears, of which the 'wattle-bird' is an example.

The 'bower-birds' possess the singular habit of forming bower-like structures of twigs upon the ground, which they decorate with gaily-coloured feathers, bones, and shells. Some of these bowers or runs are two or three feet long, arching over the top, and are the resort of many individuals of both sexes, that run in and out and around the bower in a sportive and playful manner. One of these bower-building species, about the size of a thrush, is called the satin-bird, on account of its rich glassy black plumage, which

NEW SOUTH WALES.

Regent-birds.

Rifle-birds.

Cuckoos.

Cockatoos.

Parrots.

Pigeons.

Ravens.

exactly resembles satin. Another bird inhabiting the Queensland forests, and somewhat allied to the bower-bird, is the regent-bird (*Sericulus melinus*), which has a plumage of golden-yellow and shining black. Closely allied to the birds of paradise, and approaching them in beauty of form and plumage, are the rifle-birds (*Ptiloris*), of which three species have been met with, one in the cedar-brushes of New South Wales, and the other two in Northern Queensland. Ten species of cuckoo are recorded, varying in size from the enormous *Scythrops*, or channel-bill, to the little *Chrysococcyx*, or golden cuckoo, all of which are parasitic, laying their eggs in the nests of other birds, as does the cuckoo of European notoriety. We have already alluded to the vast preponderance of the parrot tribe over most other groups of birds throughout the Australian continent. The largest are the great black cockatoos, with their red and yellow tails. These are very shy, and fly at a great elevation, going in flocks of twenty or thirty together. Next come the white cockatoos, so well known in Europe, and so abundant everywhere. The rose-cockatoo, and Leadbeater's cockatoo, with a large scarlet and yellow crest are both very handsome birds. Of the parrots a great number of species belong to the genus *Platycercus*, or 'broadtails,' to the gorgeousness of whose plumage but a passing mention can here be bestowed. The king parrot and the red-winged *Aprosmictus* are as brilliant in colour as the most pronounced shades of scarlet and green can make them; and some of the little honey-eating lorikeets are gems of beauty. The pigeons and doves number about twenty species. The large fruit-eating pigeon (*Carpophaga magnifica*), of the north-eastern part of Queensland, is green and yellow, with a purple breast. The 'top-knot pigeon' of the brushes of New South Wales is a handsome bird, with a brown crest. The 'wonga-wonga' is a large plump-looking pigeon, much esteemed as an article of food. The 'bronze-wings' (*Phaps*) have patches of metallic lustre on their wings, and some of the species are brilliantly coloured. The little ground-dove (*Geopelia*) is a pet for the aviary. The Australian raven (*Corvus Australis*) is a large ominous-looking bird, about the size of its European ally. Its hoarse, melancholy cry is one of the most

dismal and distressing sounds it is possible to conceive; and as these birds resort to the neighbourhood of sheep and cattle stations to feed upon the offal, they seem to add to the mournful solitude of the shepherd's hut. Three species of birds, peculiar to Australia, and belonging to as many genera, but all included in the family *Megapodidae*, are remarkable for their low organisation (being almost reptilian in character), and for the fact that they do not hatch their eggs like other birds, but construct vast mounds of sand or decomposed vegetable matter, in which their eggs are deposited and hatched by the heat generated within the heap. The largest of these birds is the 'brush-turkey' (*Talegalla lathami*), which is bigger than an ordinary fowl. The next in size is the *Leipoa ocellata*, or 'scrub-pheasant'; and the smallest the *Megapodius tumulus*, which is confined to tropical Australia.

NEW SOUTH WALES.

Of struthious birds there are two species of Emeu, which inhabit the vast plains of the interior; and in Northern Queensland a fine species of Cassowary has lately been discovered called *Casuarius Australis*. The Australian crane ('native companion' of the colonists) is a stately bird, when erect measuring nearly four feet in height. It is of a slate colour, with a red skin about the eyes. The *Mysteria*, or Jabira crane, is nearly as large, and has glossy metallic-green and white plumage, and bright red legs. Three species of *Ibis* occur, sometimes appearing in vast flocks on the plains of the interior.

Spoonbills, egrets, herons, plovers, snipes, and curlews are numerous; as are also quail, which afford good amusement to the sportsman. The Australian bustard (*Otis Australis*) is a noble bird, exceeding in size the bustard of Europe, the male weighing as much as sixteen pounds. It frequents extensive grassy plains, but is now becoming scarce. It is esteemed the greatest delicacy of all the indigenous so-called game birds.

The black swan, so well known since its acclimatisation in Great Britain, is to be seen in vast flocks on the lakes and backwaters of the Murray river. The Cape Barren goose is a bulky bird, of a grey colour, with a small yellow beak, also acclimatised in our English ornamental waters. The musk-duck (*Anas lobata*) is a

Mound-builders.

Emeu.

Cassowary.

Cranea.

Ibia.

Bustard.

Black swan.

Musk-duck.

NEW SOUTH WALES.

Ducks and geese.

Pelican.

Gulls.

Darter.

Penguins.

Reptiles.

Crocodile.

Lizards.

'Prickly devil.'

Scaly lizards.

Snakes

singular bird, that passes most of its time in diving, and can remain under water for a considerable period ; it has a strong musky odour. There are a great many species of ducks and geese peculiar to Australia, of which the sheldrake, the shoveller, the pink-eyed duck, the tree-duck, and the semi-palmated goose are the most important. The Australian pelican (*Pelecanus conspicillatus*) is a large and imposing bird ; it inhabits both the estuaries of the sea and the fresh-water lagoons. Cormorants and terns are abundant, and of many species. Of gulls there is only one species of true *Larus*, and two of the genus *Bruchigavia*. The New Holland darter (*Plotus*) is a singular bird, with a very long neck ; when swimming, with only its head and neck out of water, it presents the appearance of a snake. There are three species of penguin inhabiting the southern coasts of Australia and Tasmania.

In those rivers of Australia which are situated within the tropics there exists a species of crocodile (*Orocodilus biporcatus*) which is a formidable and dangerous creature, attaining a length of from twelve to eighteen feet. Lizards are very numerous, and present an infinite variety of genera and species. The largest kind is the 'monitor' (*Hydrasaurus varius*), vulgarly called a 'guana' by the settlers. Its length is from four to six feet, and it is handsomely variegated with black and dark yellow. It bites severely when captured ; but, as is the case with all reptilians possessing feet, no serious effects result from the injury. The frilled lizard is about two feet long, and looks very fierce when it extends its frill. The *Moloch horridus*, or 'prickly devil,' is perhaps the most extraordinary reptile of the lizard tribe. It is about eight inches in length, and is found in rocky places under stones in South and Western Australia. It is covered all over with a terrible array of sharp spines and prickly bosses, which impart to it a hideous aspect. The 'scaly' or 'stump-tailed' lizards are from twelve to fifteen inches long, very sluggish in their habits, and are covered all over with large flat scales.

In so warm a climate as Australia it is not surprising that snakes should be numerous ; and although out of sixty-three species already known and described a great proportion appear to be harmless, or at least not fatal

in their bite, still there are several of a very venomous and deadly nature. Great differences of opinion exist as to the proportion of poisonous snakes in Australia. Dr. Bennett says 'that four-fifths of the serpents as yet sent from various parts of Australia are poisonous, and many are virulent;' whilst Mr. Krefft, of the Sydney Museum (who has made the Australian reptilia his especial study), affirms that there are only five species whose bite is fatal to man.

NEW SOUTH WALES.

The diamond snake (*Morelia spilota*), one of the Boa tribe, attains the length of twelve feet and upwards, and is quite harmless. It is beautifully dotted upon the back with yellow spots on a black ground. The carpet snake, another species of *Boa*, closely allied to *M. spilota* is pretty generally distributed. The black snake (*Pseudechis porphyriacus*) is common everywhere, and is principally met with in marshy places, or near to water. It measures from five to eight feet in length, and is of a glossy black colour above, and a beautiful carnelian-red beneath. It is highly venomous, many instances being on record where both Europeans and natives have succumbed to its bite. The brown snake (*Diemenia superciliosa*) is equally venomous. There is a tree-snake common in New South Wales (*Dipsas fusca*), about three feet long, very slender and graceful, and perfectly harmless. The brown-banded snake (*Hoplocephalus curtus*) is of an olive-green colour above and yellow beneath, and is very venomous. A remarkably handsome snake is the *Vermicella annulata*, banded with alternate rings of black and white; it also is venomous. Perhaps the most repulsive-looking of all the Australian serpents is the death-adder (*Acanthophis antarctica*); its bite occasionally proves fatal. It is a short thick creature, varying in length from two to three feet, and is speckled with brown and dirty yellow; its head is broad and flat, and the tail is armed with a sort of prong; it coils itself up in sandy places, and its torpid disposition renders it still more dangerous, as, from the assimilation of its colour to the soil, a stranger is liable to tread upon it unawares.

Diamond snake.

Black snake.

Tree-snake.

Ringed-snake.

Death-adder.

Fifteen species of sea-snakes (*Hydrophidae*) inhabit the Australian coasts; they are all venomous. They swim rapidly about in the sea, and may be distinguished by their flattened tails.

Sea-snakes.

NEW SOUTH WALES.

Water-tortoise.

Turtles.

Frogs.

Fishes.

Edible sorts.

Beautiful species.

Sharks.

Cestracion.

Saw-fish.

Sword-fish.

A small fresh-water tortoise (*Emys longicollis*) is found in the rivers of Australia; and on the coasts the 'loggerhead,' the 'hawksbill,' and the 'green turtle' are to be met with. The latter is captured at Moreton Bay for supplying the Sydney market with the materials for turtle-soup. It is also preserved in tins and sent to England, where it ought to find a ready sale, as it can be obtained at one-quarter the price of the West Indian article.

Frogs of various kinds are common in the swamps and marshes, some of them being handsomely variegated with different colours. The pretty green tree-frog is frequent in the low shrubs and in the gardens of New South Wales. Upwards of forty species of frogs are recorded.

Fishes, many of which are excellent eating, abound in endless variety on all parts of the Australian coasts; and when fisheries are carried on in a more systematic manner, the dwellers in the seaport cities and towns need never be without a choice and varied supply of fish. Amongst the best known kinds which are brought into the market are the schnapper, red-bream, flathead, John-dory, whiting, mackerel, mullet, garr-fish, and groper. Many of the smaller fishes, especially those that frequent the reefs and rocky shores, are of the most beautiful and brilliant colours and elegant forms.

Amongst these may be mentioned the parrot-fish, the *Chætodon*, and the blue and golden *Glyphisodon*. Sharks of enormous size infest all portions of the Australian seaboard. In Port Jackson examples of the *Carcharias leucas* have been killed measuring from twelve to fourteen feet in length, and with a girth of seven feet. The tiger-shark (*Squalus barbatus*) and several other species are abundant; as also is the *Cestracion*, or 'shell-grinding shark,' remarkable for being the only living species representative of a once numerous tribe of fossil sharks whose jaws were armed with strong bony plates for the purpose of grinding down the shell-fish which formed their food. The hammer-headed shark, the saw-fish, the stinging ray, and the torpedo are all to be met with. Two species of sword-fish, both of large size, inhabit the Australian seas. Instances have frequently occurred where vessels navigating the coast have been

penetrated by the powerful 'swords' of these huge fish, which, breaking off, have left several inches of the end firmly embedded in the timbers. The 'fishing-frog,' or 'angler,' is a quaint-looking fish that creeps along the mud at the bottom of the water by means of its fins, which resemble feet; from its upper jaw projects a thin filament, at the end of which is an appendage like a small scarlet flower. Nearly buried in the mud, the 'fishing-frog' lies in wait for its prey, wagging its scarlet tuft, and thus attracting the curiosity of the smaller fishes, which quickly fall victims to their imprudence in the capacious jaws of the enemy.

NEW SOUTH WALES.
Fishing-frog.

The River Murray, and the larger streams emptying themselves into the sea on the Eastern coast, are inhabited by several kinds of fresh-water fish, amongst which the 'cod-perch' or 'Murray cod' is the most important. It is taken by means of lines, baited with tree-frogs. It is excellent eating, and when full-grown weighs from thirty to forty pounds.

Fresh-water fish.
Murray cod.

Cray-fish are found of large size, both of marine and fresh-water species. Prawns and shrimps, and an infinite variety of crabs and other crustaceans, dwell amongst the rocks on the sea-shore. The *Neptunus*, or swimming crab, is an elegant species, the upper shell or 'carapace' being produced into a point at the extremities.

Crustaceans.

Oysters of various kinds are abundant. The 'rock oyster,' for which the coast of New South Wales is famous, has a remarkably rich and delicate flavour. Many of the Australian shells are very beautiful, and much valued by collectors; amongst them may be noticed those of the *Volute* family, of which there are a large number of showy species. A great many curious forms of mollusks are peculiar to the Australian seas, but space forbids more than a passing allusion to them. The land-shells (snails) of North-eastern Australia are interesting, and present many fine, large, and elegantly painted species.

Oysters.
Shells.
Volutae.

Leeches swarm in most shallow lagoons and ponds; and on the tropical coasts the 'trepang,' or 'bêche-de-mer' (*Holothuria*), occurs plentifully.

Land-snails.

Insect life, as in other warm climates, is prolific to an extraordinary degree. Flies, both in and out of

Leeches.
Trepang.
Insects.
Flies.

NEW SOUTH WALES.

Mosquitoes.

Bees.

Wasps.

White ants.

Butterflies.

Moths.

Beetles.

'Animated straws.'

Phasmidae.

doors, are extremely annoying during the summer months ; as are mosquitoes in certain localities, especially in the vicinity of mangrove swamps. Fleas and sand-flies are pests in the bush in sandy places. The common honey-bee has long been acclimatised in Australia ; and, owing to the genial climate, and the great quantity of honey-bearing flowers which are indigenous to the soil, it has become very abundant. 'Bee-farming' is a favourite calling in New South Wales. That noisy insect, the *Tettigonia*, or 'tree locust' of the colonist, enlivens almost every gum-tree during summer with its shrill and almost deafening music.

There are a great many species of wasps and hornets ; and ants, some an inch in length, are to be met with everywhere, and inflict a severe bite. White ants, as in most hot countries, are extremely destructive, and do much damage to wooden floors. Excepting on the Eastern and Northern coasts, the butterflies are neither numerous nor remarkable for their size or beauty. *Papilio erectorus*, a large handsome butterfly, is to be seen in the gardens around Sydney, as well as *P. anactus*, *P. sarpedon*, and others, and a magnificent species of *Charaxes*. The woods of the Clarence and the Richmond, in the north part of New South Wales, can boast of one of the most superb butterflies known, the *Ornithoptera richmondia*, which is five inches across the wings, of a velvet black, with a broad band of metallic golden green. Many of the moths, especially those of the genera *Cassus*, *Hepialus*, &c., attain a large size, but are not remarkable for their colours.

Coleoptera are more numerous than the lepidoptera ; many of the beetles are very curious, and the great family of the *Buprestidae* are remarkable for their bright colours and singular markings. The diamond beetle rivals its Brazilian namesake in the splendour of its jewelled wing-cases.

Those extraordinary insects called 'walking-sticks,' or 'animated straws,' are found climbing amongst the boughs of the gum-trees. The 'praying mantis' is also frequently met with. The largest of all the insect tribe peculiar to Australia are the *Phasmidae*, a group of *Orthoptera*. Some of them are over a foot in length, their large glassy wings when spread out displaying

tints of various hues. They dwell in the gum-trees, on the young shoots of which they feed.

NEW SOUTH WALES.

Spiders.

Spiders, of the tarantula type, attain a large size; and one kind (*Mygale*) constructs a tube-like nest in the ground, which retreat is furnished with a sort of trap-door, which the creature lifts up or down at pleasure. Some of the smaller sorts of spiders display the most beautiful colours, being spotted and striped with green, rose-colour, scarlet, purple, yellow, and blue; whilst others are armed with spiny protuberances.

Scorpions and centipedes inhabit damp and unfrequented places under stones and decaying logs. Some of them are very large, and the poison from their bite is so virulent as to cause serious inflammation and drowsiness.

Scorpions.
Centipedes.

Australian Botany.

One of the most striking features in the aspect of the vegetable kingdom in Australia is the almost universal prevalence of evergreen trees and shrubs. From this cause there is no perceptible difference in the aspect of the landscape either in summer or winter; excepting that, during the autumn, the grass dries up and becomes of a yellow colour, presenting the appearance of hay, and contrasting strongly with the deep green foliage of the trees.

Evergreens.

By far the largest proportion of the vegetation throughout the entire continent of Australia is composed of trees belonging to the great family of the *Eucalyptidae*, or 'gum-trees,' as they are familiarly styled. These are all evergreen, and vary greatly in size and mode of growth. Large tracts of fertile gently undulating grassy country present all the appearance of a park, being scattered here and there with noble gum-trees, either singly or in clusters, many of them attaining an altitude of upwards of 200 feet, and a girth of from twelve to twenty feet. The banks of the rivers, and the water-courses generally, are everywhere bordered with the gigantic 'blue-gums,' which mark the course of the stream from a long distance as it meanders through open plains or low desert scrub. Dense forests, composed for the most part of such lofty species of *Eucalyptus* as the 'stringy-

Gum-trees.

Blue-gum.

NEW SOUTH WALES.**Iron-bark.****Spinifex.****Tropical verdure.****Cabbage-palm.****Gigantic nettle-tree.****Shea-oak.****Acacias.**

bark,' 'iron-bark,' &c., clothe the mountain ranges generally; while the extensive arid and sandy tracts known as the 'mallee-scrub' are covered by low thickets of a dwarf kind belonging to the same family. In the interior, alternating with grassy plains, there occur patches of desert land, where rain seldom falls, which are overgrown with a low shrubby plant called *Spinifex*, presenting a mass of sharp prickles, and rendering travelling on horseback both difficult and dangerous. The character of the vegetation of the interior hills and undulating country generally partakes of the ever monotonous gum-tree aspect, even in those portions of Australia that extend far into the tropics. It is, however, in the valleys of the dividing ranges that slope down to the Pacific, throughout nearly the whole extent of the East coast from Illawarra to Cape York, as well as on the alluvial flats that border the rivers of Queensland and the Northern territory, that we find a rich luxuriant vegetation, teeming with palms and ferns, and all the glorious verdure of a tropical forest. As far South as the Illawarra district in New South Wales, the eastern slopes of the mountains and the ravines and valleys that trend towards the sea are clothed with forests of infinite beauty, teeming with vegetation in its wildest luxuriance. Here the cabbage-palm (*Corypha Australis*) towers to a height of seventy feet. The gigantic fig rears its tortuous branches high into the air, clothed with rich draperies of curious and spreading parasites; and the graceful tree-ferns flourish in the warm atmosphere of these sheltered dells. In these forests the gigantic nettle-tree grows to an altitude of forty or fifty feet, and has large flat leaves, the sting from which is so virulent as to produce great suffering.

In some localities, especially in the South and West, nothing is seen but extensive tracts of the *Casuarina* or 'shea-oak' tree; remarkable for having long drooping filaments instead of leaves, through which, on a stormy day, the wind makes most mournful music. In other places we meet with groves of that handsome species of acacia the 'golden wattle,' which, when covered with its masses of yellow blossom during spring, fills the air with perfume of indescribable fra-

grance. Indeed, owing to the profusion of aromatic shrubs and odoriferous flowers, the 'bush' in Australia is fragrant throughout the whole year.

NEW SOUTH WALES.

A great variety of beautiful acacias occur in all parts of Australia, having for the most part sweet-scented blossoms. The drooping acacia, or 'myall' of the aborigines, has a dark-coloured wood, which emits a strong odour of violets, which it retains for many years. The red cedar, which flourishes in the brushes of New South Wales and Queensland, affords excellent timber for house-fittings and cabinet-work. The white cedar, or 'Australian lilac,' emits from its pendulous clusters of lilac-coloured blossoms a most delightful scent during the evening and for a few hours after sundown.

Myall.

Cedars.

Flame-tree.

The 'flame-tree' (*Brachychiton acerifolium*), when covered with its large racemes of red flowers, renders the Illawarra mountains conspicuous for miles at sea, by reason of their glowing crimson patches. The fire-tree (*Nuytsia floribunda*), of King George's Sound, is clothed in December with rich spikes of orange-coloured blossoms, presenting a very gay appearance. In Queensland the 'silky oak' (*Grevillea robusta*) possesses a downy foliage almost hidden by its flowers, which resemble branched combs of crooked golden wire; and the *Stenocarpus Cunninghamii*, a proteaceous tree, fifty feet high, displays, when in bloom, one gorgeous mass of bright crimson stamens tipped with orange.

Fire-tree.

Silky oak.

Bottle-tree.

On the North and North-west coasts of Australia the explorers in those regions have met with a most remarkable tree, called 'the bottle tree,' or 'gouty stem tree.' It is allied to the 'baobab' of Western Africa, and is named *Delabechia gregorii*. The huge shapeless trunks of these trees, resembling enormous yams, are filled with a mucilaginous substance, not unlike gum tragacanth. The fruit is a small gourd, which is acidulous, and is eaten by the natives. A species of India-rubber tree is abundant in the forests of the East coast. The *Banksiae* are a singular-looking group of trees, peculiar to Australia. They have the appearance of small stunted oaks, bearing cylindrical clusters of blossom, which turn into enormous seed-cones, and impart a remarkable character to the branches.

India.
rubber.

Banksiae.

Amongst the noble pines that adorn the Queensland Pines.

NEW SOUTH WALES.

'Bunya-bunya.'

Wooden pear.

Mistletoe.

Christmas-bush.

Fruits.

Grass-tree.

Timber trees.

Tree-ferns.

forests the most important is the 'bunya-bunya' (*Araucaria Bidwilli*). It towers to a height of more than 100 feet, and has wide-spreading branches densely covered by lanciform foliage. It produces an enormous cone, larger than a man's head, the seeds of which form a valuable article of food to the blacks, who travel hundreds of miles to obtain them, and hold an annual festival on the occasion.

One of the anomalies of the vegetable kingdom is a shrub (*Xylomelum pyriforme*) the seed-vessel bearing a singular resemblance to a *wooden pear*; another is a species of cypress, the fruit of which is like a small cherry, having the stone *outside*. A species of mistletoe (*Loranthus*) is parasitic on the gum-tree, producing berries similar to those in England. It is devoted to the same festive purposes of decoration, as is also the 'Christmas-bush' (*Ceratopetalum gummiferum*), a pretty evergreen shrub, yielding masses of pink blossom. In the category of barely edible native fruits may be noticed the 'quandong,' or 'native peach,' having a large round wrinkled stone covered with a bright scarlet pulpy skin; the 'monterey,' which resembles a minute apple, and grows on a creeping plant on the sand-hills of the sea-shore; the native 'currant,' the 'gebung,' the wild grape, and the indigenous fig.

The grass-tree (*Xanthorrhoea*) and the *Kingia* of Western Australia are peculiar features of the landscape in poor soil, and amongst barren and rocky scenery; from a rugged trunk or stem, varying in height from two to ten or twelve feet, there springs out, on all sides, a graceful tuft of thin grass-like leaves, whilst from the centre issues a long blossom-spike, not unlike a bulrush.

Many of the larger kinds of gum-trees shed their bark annually, which, at certain seasons, imparts to their trunks a naked and ragged appearance. Of valuable timber trees there are a great many kinds. A large proportion of these belong to the *Eucalypti*, and produce hard and heavy woods. The tulip-wood of the Clarence River is very ornamental; and the cedar, silky oak, white beach, yellow wood, 'jarra,' and many more, are of importance for building and cabinet-making purposes.

Groves of tree-ferns occur in Gippsland and in the

sheltered glens of the Blue Mountains of New South Wales.

NEW SOUTH WALES.

The estuaries of rivers and salt-water creeks are almost invariably bordered with broad belts of mangrove-trees; and many of the bays and islands within the tropic are fringed with the *Pandanus*, or screw-pine.

Mangroves.

Many of the flowers adorning the sand-scrubs are remarkable for their beauty; and, as a rule, a poor soil produces the greatest number of indigeneous flowers. In the spring the ground is, in many places, covered with a variety of terrestrial orchids. The most striking flowers are the 'warratah' (*Telopea speciosissima*), which seldom grows higher than six feet, and has a slender stem surmounted by a large crimson blossom, not unlike a peony; the rock-lily, *Doryanthes excelsa*, which has a flower-stalk 30 feet high, bearing at its summit a crown of dark red flowers; the Murray lily (*Crinum*), with its tufts of sweet-scented white blossoms; and a magnificent epiphyte, parasitic on rocks, which is found in the neighbourhood of Port Jackson. The flower-laden stalks of this charming orchid exceed a foot in length; the blossoms are pale cream-colour, and the perfume divine.

'War-ratah.'

Mushrooms are abundant where the soil has been manured by sheep or cattle; and a luminous fungus is common in some parts of the country.

Rock-lily.

Murray lily.

Large orchid.

Mush-rooms.

Luminous fungus.

Government.

The early Governors of New South Wales were in the position of autocrats, having a sort of irresponsible power. Ruling principally over convicts and paid officials, with their acts unsubmitted to the criticism of the press, they were only amenable to the British Ministry, who were too occupied with the French war to attend to so distant a colony.

Despotic rule.

All cases were tried before the Judge Advocate, who was not required to be a lawyer, with a military jury of six officers. This court met in secret. In 1812, two Courts were appointed. One consisted of the Judge Advocate and two assessors appointed by the Governor; the Supreme Court was conducted by the Judge and two magistrates selected by the Governor.

Three classes of the community were opposed to one another—the officials, the free settlers, and the emanci-

NEW SOUTH WALES.

Early society.

Witnesses flogged.

Want of freedom.

Trial by jury, 1824.

No liberty of the Press.

Dawn of freedom.

pists. The last were those freed by the termination of their sentence. They were jealous of the intrusion of free comers, who were equally disliked by the ruling officers. A collision brought on the rebellion in 1808, when Governor Bligh was deposed.

Magistrates were not then gentle in their office. Men were flogged to extort confession of suspected crimes, and witnesses were flogged when testimony was supposed to be withheld. Women even were subjected to the lash. Masters were able to get their servants publicly flogged by an order from a magistrate. We read of a poor fellow receiving twenty-five lashes each morning for eight successive days, when unable or unwilling to speak of some lost property. As lately as 1823, a witness had 100 lashes to quicken his memory of an event.

Government interfered with prices of goods, with rates of labour, with export of produce, with rate of exchanges, with system of payments, and with the movements of travellers. Settlers required permission to leave a port, after previously advertising their intention to go. No marriage was valid without an official permit. Trade for many years was directly or indirectly controlled by the authorities. The sale of strong drink was a monopoly of the officials.

After a long struggle, free settlers obtained the boon of trial by jury in 1824; though the concession was for several years withheld from those free by servitude only. The independence of the judges was a great blessing to all.

The Press was under surveillance of the strictest kind. When, with the expansion of affairs and the introduction of many respectable colonists, the newspapers ventured upon some modest criticisms of the powers that were, the Act of 1827 arrested their liberty.

By this law every newspaper must have a licence, and present two satisfactory guarantees for a large amount. A stamp duty of fourpence a copy was levied. The Governor also claimed the right to suspend the licence upon any imprudence or negligence in the conduct of the press.

A gradual improvement appeared. Governor Bourke removed the galling disabilities of religion. Governor Gipps, in 1838, allowed the public to hear the discussions of the Legislative Nominee Council. In 1842 Sydney

received its corporation. In 1843, the Home Government granted the Colony the first instalment of a popular government, in making the Council to be partly elective.

Petitions at length procured for the Colony responsible government. This concession was granted by the English Parliament in 1855.

By proclamation, the Legislative Council, or Upper House, was to consist of 31 members, appointed by the Governor for life. But the Legislative Assembly, or House of Commons, was to be elective for five years, and to consist of 72 persons. In 1878, 160,000 voters.

Electors, who vote by ballot, must be twenty-one years of age, three years resident in the Colony, and for six months previous to an election living in an electoral district, or possessed of a freehold of £10 a year.

The Colony has prospered under a responsible Ministry. The laws are respected, and equitably administered. Municipal institutions are spreading through the land. The immigrant discovers an order-loving community, and a righteous judgment. The extension of freedom has produced neither licence nor misgovernment in a land so long held in leading strings. Under a popular system of rule, education has greatly extended, property has become more secure, trade has expanded, wrong-doing has been more effectually checked, and social happiness has gained every way.

The revenue of the Colony is steadily advancing. In 1821 it was 36,231*l.*; in 1831, 121,066*l.*; in 1851, 406,056*l.*; in 1854, 1,004,467*l.*; in 1864, 1,693,792*l.*; and in 1872 it rose to 2,812,379*l.* In 1877-8 it was 4,991,919*l.*; but in 1878-9, 4,524,841*l.*; in 1880, 4,761,875*l.* Stamp duties are re-levied.

Among the sources of revenue in 1877-8 were—

	£
Customs	1,162,827
Excise	42,215
Licenses	109,937
Post Office and Telegraphs	234,785
Fees	77,062
Railways	876,745
Land Revenue	2,230,687
Gold Duty	7,022
The Mint	10,090

The expenditure for 1877-8 was 4,898,299*l.*

NEW SOUTH WALES.

Progress of freedom.

Parliament.

Electors.

Results of liberty.

Revenue.

NEW SOUTH WALES.

Expenditure.

Public debt.

The Taxation in 1878 was rated at about 1*l.* 18*s.* 7*d.* per head, an amount almost unappreciable in a prosperous community. The Debt was 16*l.* 16*s.* 11*d.* per head.

The expenditure had, during nearly twenty years, been in excess of the receipts. This had arisen from the great progression of the Colony demanding public works. Loans have been contracted to enter upon productive undertakings, like railways, but not to pay for losses or wasteful extravagance. The honourable position of the Loan Fund, now 15,000,000*l.*, on the Exchange is a safe testimony to the stable condition of the affairs of New South Wales. The interest of the debt is but a slight burden, while the obligations are being gradually liquidated. At the end of 1877 there was a surplus of revenue to the amount of 2,331,610*l.* An increased expenditure, with a diminution of income, greatly owing to a reduction of the land sales, tend to equalize the funds. The Land Revenue was 2,325,730*l.* in 1877-8, but 1,715,102*l.* in 1878-9. Though the land capital is decreasing, a larger population gives further sources of income. The railways are Government property, and are very remunerative. The coal raised in 1879 was worth about a million pounds. The land is able to maintain more stock. The commerce of the Colony is extending, and acquired wealth augments by capital. The extension of education, with the rapid growth of population, will promote the public weal by the discovery of new resources, and the intelligent use of advantages.

Population.

Few foreigners; many Irish.

New South Wales is not of such a mixture of races as Queensland, though the Sydney Government returns are not so explicit upon vital statistics as in that neighbouring colony. There is a much smaller percentage of foreigners in the old colony than elsewhere in Australia, but a greater proportion of Irish.

From about 1,000, at the foundation of Sydney in 1788, the population rose to 8,923 in 1810, 4,000 of whom were in bondage. In 1821 the proportion of bond to free was 14,000 to 16,000, growing still less in proportion every year afterwards.

The colonial records are interesting in their exhibition of relative changes in the population. Thus we find :—

NEW SOUTH
WALES.

	Population	Births	Marriages	Deaths	Births, Marriages and Deaths.
1825	33,675	442	239	392	
1830	46,302	683	339	570	
1834	66,212	1,857	705	1,164	
1840	129,463	4,233	1,631	2,382	
1847	205,009	8,910	1,861	2,694	
1850	265,503	10,037	2,825	3,379	
*1851	197,168	7,675	1,915	2,600	
1855	277,579	10,344	2,765	4,022	
1860	348,646	14,233	2,945	6,562	
1865	411,388	17,283	3,578	6,696	
1870	502,861	19,648	3,848	6,558	
1872	539,190	20,250	3,925	7,468	
1878	693,743	25,828	5,318	10,763	

But taking the year 1871 as the terminus of a series, we are led to the following curious table of proportion :—

	Births	Marriages	Deaths
1826	1 in 65	1 in 124	1 in 69
1831	" 56	" 115	" 83
1841	" 28	" 77	" 51
1846	" 22	" 109	" 77
1851	" 25	" 102	" 75
1861	" 24	" 111	" 67
1878	" 28	" 132	" 64

The population has still an excess of males. In 1871 the proportion of sexes was about the same as in 1861, being 55 per cent. males to 45 females. In that decade, from 1861 to 1871, there was an excess of 108,972 births over deaths. At the beginning of 1879 there were 367,323 males, and 294,889 females; 55½ to 44½.

10 per cent.
more males.

In the employments, many more are engaged in pastoral pursuits, as compared to agricultural, than would be found in Victoria or New Zealand. There were

Employ-
ments.

* The reduction this year was owing to the separation of Port Phillip from the parent colony.

NEW SOUTH WALES.

17,835 on squatting stations, and 43,805 on farms, 1871. The farming number has since advanced.

Total population. The population of the Colony at the end of December 1878 amounted to 693,743 with 10,000 Chinese.

New South Wales has been the hive from which many swarmed to the newer colonies of South Australia, Victoria, New Zealand, and Queensland, all of which are largely indebted to the old colony for something more than people. They have drawn from it capital for infant and struggling enterprises, and sympathy in seasons of trial and depression.

Settled-down society.

The population is a settled-down one in New South Wales. Occupations are more regular and constant. Prices of living are perhaps as low as in any part of the civilized world. Bushmen and miners experience fewer privations, and realise more comforts than elsewhere.

Every provision is made for sickness and poverty. There are 50 hospitals, 9 benevolent asylums, and 11 orphan and industrial schools. There are refuges, sailors' homes, working men's clubs, Freemason and Odd Fellows' lodges, besides many Good Templar associations. The Australian Mutual Provident Society, with assets above a million, has been a great advantage to many. Building societies are extensively patronised in the townships. Altogether it has been truly said that the working man there enjoys life, while making prudent provision for a rainy day.

Chinese labour.

The Chinese visitors—all males—are but 10,000 altogether. Before the gold era they were employed chiefly as cooks on stations. As domestic servants they have been liked for their attention, fidelity, good humour, and common sense. Since the outbreak of the diggings, when not engaged at mining operations, they have turned to market gardening. For quantity and quality of vegetables upon a plot of land the Chincse farmer is far ahead of the European one. For provident economy, sobriety, and good behaviour, he is an example worthy of imitation. His uncleanliness is objectionable.

Polynesian labour not imported.

Polynesian labour was introduced into Twofold Bay and other places many years ago; but the experiment, fortunately, was not attended with success.

Aborigines.

The ABORIGINES of the Colony can no more be called savages, although dwelling apart from the strangers who

have taken their hunting grounds. Their numbers are rapidly decreasing, less by absolute mortality than by the singular unfertility of the females. The old are dying out, and few children take their place in the tribe.

Excepting some young men who attach themselves to stations as stockriders, the blacks have no desire to work, being content with the food the bush provides them in their independence. Never occupied as tillers of the ground, with no inclination to tend a flock of their own, they wander perpetually without a prospect of settlement.

All attempts to get them to adopt our forms of civilization have signally failed, although zeal and money have not been wanting in the agency.

Once, numerous and warlike, they opposed an active resistance to the inroads of the whites; now, few and feeble, they are content in their isolation, if sullen in their resignation. They have lost their spirit and their hope, and sink lower and lower in licentiousness and drunkenness. In a few years the bush will no more be trodden by these ancient Australian inhabitants.

NEW SOUTH WALES.

Aborigines dying out.

Declined our civilization.

Education and Religion.

Although a number of children belonging to the military and emigrant families went in the first fleet of 1787, no provision was made for their instruction on board, and none for their teaching on shore.

A poor woman, actuated as it would appear by genuine motives of benevolence, gathered some of these little ones in her rude dwelling, and tried to teach them something better than what they learnt from the general society of Port Jackson. The clergyman was moved at the exhibition of such devotion, and pitied the state of the young in these unfortunate circumstances. He addressed a letter to the Society for the Promotion of the Gospel in Foreign Parts, about the year 1792—having allowed nearly five years to pass without writing to the committee.

The secretary responded to the appeal. A grant of 10*l.* a year was made to the teacher of Sydney. Other grants of 10*l.* each were made for two other women and one man who had taken up the work of teaching.

As soon as the wattle-bough and clay church was finished, a school was held there. In 1807 an evening

The first teacher and grant in aid.

NEW SOUTH WALES.

Female orphan school.

Male orphan school.

First public day school.

Aid to education.

Church and school corporation.

class was established for youth employed in the day. It was from such humble efforts that public instruction arose in New South Wales.

Governor King, rough sailor as he was, undertook to do something for a much neglected and suffering class. In 1801 he collected the destitute female orphans of Sydney and Rose Hill, gave them a home, and placed them under a female teacher.

It was not until 1819 that the boys were similarly remembered, and then General Macquarie organised another orphan school for them.

The worthy old Governor caused a fine building to be constructed the year after, which he called after his sovereign, 'The Georgian Public School for the Poor.' He sought to imitate George III., who had said to Joseph Lancaster, 'It is my wish that every poor child in my dominions should be taught to read the Scriptures.'

The first educational statistics were collected in 1819, when it was ascertained that there were 1,000 children at the public schools, and half that number at private schools.

A London Society found the first funds for a colonial school. Private benevolence subsidized the payments by parents for the education of little ones. Occasional grants in aid came from the colonial treasury, although many years elapsed before annual government assistance was rendered.

The celebrated Church and School Corporation Act was passed in 1825. It was intended to provide clergy and teachers throughout New South Wales. The allowance was a liberal one. In addition to distinct monetary aid from the council, a corporate body had made over to its control, for church and school purposes, not less than one-seventh of the public lands of the settled part of the colony.

Such a noble bequest, although deemed little worth then, would have proved equal, if not superior, in munificence to anything known in history. Had the Act been sustained, and the means wisely utilized, for thirty years, education and religion would have had an extraordinary endowment in Australia.

But the terms of the Act were held to be sectarian. The whole of these magnificent areas were to be held in

trust for the Church of England only. The Presbyterians, although belonging to one of the two established churches of Britain, were debarred from the enjoyment of this colonial fund. Roman Catholics and English Dissenters could only take advantage of the boon by sending their sons and daughters to the Church of England schools.

So great an outcry was raised at this supposed favouritism, that the Church and School Corporation Act was repealed three or four years after. But the authorities, while regarding the rights of conscience, neglected the claims of young students. Instead of amending the Act, and still sanctioning the devotion of one-seventh of the public lands to such public uses, though under a more liberal charter, they quietly resumed the acres, and doled out a moderate sum of money instead.

The official gifts to schools were rather arbitrarily bestowed. Yet a small grant was made to a Roman Catholic school; and a few hundreds were appropriated to the funds of the British and Foreign School Society, which professed to give unsectarian instruction in the colonies as at home, and which was then under the patronage of His Majesty.

It is right to observe that, in proportion as New South Wales emerged from tutelage, and became entrusted with progressive powers of self-government, so did government extend its pecuniary aid to education, and widen the liberal basis according to which the grants were made.

The growing middle classes of the Colony were not left to the fluctuating and limited accommodation of the private schools. Bishop Broughton, a warm friend to youth, opened the King's School in 1832. The Presbyterians at the same time laid the foundation of their Australian College, mainly through the zealous exertions of the Rev. Dr. Lang. The Sydney Proprietary College began in 1836, having Dr. Braim as head master.

The mode by which the Legislature administered the annual donations for education was through the Denominational School Board, consisting of members of different denominations. Local Committees, by raising a certain part of the expenses, were entitled to draw another portion from the Board. The recognized heads of denominations were in communication with the Board.

NEW SOUTH WALES.

The Grant for Church of England schools only.

The Act repealed.

Better grants with growth of freedom.

Higher class schools.

Denominational School Board.

NEW SOUTH WALES.

National School Board.

The two Boards united.

Secular instruction only paid for by the State.

Freedom of religious instruction.

Schools and scholars.

In 1848, however, a party, long dissatisfied with a system which they considered tended to maintain sectarian bigotry and dissension, succeeded in establishing the Board of National Education.

This was an imitation of Lord Stanley's Irish School plan, and seemed as adapted to the mixed communions of Australia as to those in the Emerald Isle. It was generally looked upon as the favourite in official circles, and its grants were liberal. The expenses of these two really antagonistic bodies brought about an amalgamation in 1867, when one Board of Education had supervision of all schools.

With a view to form, in process of time, one common system of Public Instruction, special regard is paid to schools coming directly under the management of the Board. Still, not to appear to interfere with conscientious opinions, assistance was continued to schools established and controlled by specific denominations.

But while the Denominational Schools receive aid from the State, they are obliged to submit to one condition—that of opening their classes to pupils outside of their own communion, without attempting to enforce doctrinal teaching opposed to the wishes of parents. To remove the possibility of a mistake, it was ruled that the Government paid for secular instruction only, which must be communicated two hours in the morning and two in the afternoon. Out of those hours any dogmatic belief might be inculcated agreeable to the tenets of the individual body governing the school. The Roman Catholic clergy have uniformly opposed the present system.

Since 1867, Public Instruction has made decided progress in New South Wales. Itinerant teachers provide for children in thinly-populated districts. Though the youth of the indigent may be admitted without pay in public schools, yet the classes are not thrown open to all without charge, as in Queensland and Victoria.

The fees came to 87,865*l.* for the year 1878, while the rest came from the colonial funds. For 1878 the State Grant was 391,052*l.* The private schools for 1872 were 551 in number, with 881 teachers, and 16,286 scholars. In January 1879, there were 1,189 Board Schools; viz. 620 public, 285 provisional, 115 half-time, and 169 denominational. The scholars were 148,788.

The Sydney University was established in 1851. The charter was framed after that of the London University. Six professors, judiciously selected, are upon the staff. The building is one of the noblest in the capital, and the institution is one of which the citizens are justly proud. Four Denominational Colleges are affiliated with the University.

NEW SOUTH WALES.

Sydney University.

The State also supports, for the purposes of education, Free Libraries, Schools of Art, and Mechanics' Institutes. The fine Sydney Museum is admirably managed by the naturalist, Mr. Krefft. The Sydney Botanic Gardens, spread out beside the charming Port Jackson, are not less a school than a pleasure retreat.

Free
Libraries
and
Museum.

Botanic
Gardens.

RELIGION has its colonial history as well as education.

RELIGION.

When the expedition was about to sail in 1787 it was noticed that no appointment had been made of a chaplain. As the eloquent Dr. Nixon, first Bishop of Tasmania, expressed it, 'There were constables, military guards, and a Governor on board; everything to coerce the wretched exiles, every secular means, perhaps, for his improvement, but no one thought was bestowed upon the exile's soul.'

Religion
forgotten
in 1787.

Bishop Porteus and the excellent Mr. Wilberforce exerted themselves to remedy the neglect, and succeeded in procuring the services of the Rev. Mr. Johnson.

First
Chaplain.

If not an energetic man, he was certainly a good one. He submitted too tamely to official indifference to religion, and failed to urge with zeal the attendance of the prisoners upon his ministrations. When, after seven years' waiting, he was still told by the authorities that the men could not be spared from public works to attend to church building, the chaplain had the resolution to set about the erection himself.

After procuring the loan of a few prisoners, a privilege to which he was officially entitled, he went with them, axe in hand, to cut down cabbage palm stems for posts, and wattle boughs to entwine amidst the framework. Clay was then dabbed upon the boughs at the sides, and sheets of bark were laid on the rafters for a roof. The expenditure from his own purse only amounted to £40. For very shame, the Government could not but order

First
Colonial
Church
built by
the Chap-
lain.

NEW SOUTH WALES.

Church burnt.

Rev. S. Marsden came, 1794.

First stone Church.

First Bishop 1836.

Church of England statistics.

Presbyterianism.

Rev. Dr. Lang objects to toleration.

the prisoner population to attend church, though the chaplain vainly sought for the presence of the officers.

It was not long before the convicts tired of this compulsory attendance, and set fire to the church to free them from the irksome task. The act aroused the Governor. A strong building, just put up for a public store, was turned into a place of worship, and the unwilling congregation were reassembled.

Disappointed and worried, the pastor retired from his work, and was succeeded, in 1794, by a man of very different stamp—the Rev. Samuel Marsden.

To him Paramatta was indebted for its stone church, in 1803, the first solid structure of the kind in Australia. To him the Colony was indebted for the remedy of some social evils, and for the authoritative establishment of Christian worship. To him, also, the Maories of New Zealand were indebted for their first missionary teachers.

Archdeacon Broughton, appointed through the recommendation of the Duke of Wellington, who honoured his character and energy, became the first bishop of Sydney, and Metropolitan of Australia, in 1836. Before that date the diocese of Calcutta included New Holland and New Zealand.

The Church of England in New South Wales had in 1879 five bishops : namely, at Sydney, Newcastle, Goulburn, Bathurst, and Grafton and Armidale.

There were 207 clergymen, 410 places of worship, and an average attendance of 51,770 worshippers. In the 375 Sunday schools were 2,638 teachers, and 31,608 scholars.

The Presbyterian emigrants at the Hawkesbury were the first to erect a church by voluntary effort in Australia. The building raised in 1806 had to be used for a school, since the worthy people were unable to induce a clergyman to come out to them from Scotland.

The Rev. Dr. Lang reached Sydney in 1823. He celebrated in 1873, with the honourable homage of his brethren in the ministry, his jubilee of service.

Surprised and indignant to find himself unrecognized by the Colonial Government, when he was an authorised clergyman of an Established Church at home, the fiery Scot told the governor, who spoke of *toleration*, that his countrymen were under no necessity of receiving tolera-

tion, since their forefathers had won civil and religious liberty for them by their valour. He succeeded, after some years, in securing a chaplain's salary, and so paved the way for the admission of other denominations to the Treasury.

The charter of religious freedom arrived in 1836. Then all Australians were placed on one common stand before the State. All ministers who were willing to accept a salary from the Colonial Government were welcome to the pay, provided the denomination they represented had only its proper share of the grant. This was fairly determined according to census returns.

The Church of England, the Presbyterians, the Wesleyans and the Roman Catholics claimed their several State grants.

The status of the Presbyterian Church in January 1879 was as follows:—There were 83 clergymen, 149 places of worship, with an attendance of 13,822. In their 128 schools were 892 teachers, and 8,073 pupils.

The Wesleyans held religious services in the Colony before the Presbyterians.

In 1815 permission was granted by the English Government for the emigration of the Rev. Samuel Leigh, a Wesleyan minister, though only upon the understanding that he went as a schoolmaster. The position of the body changed considerably when it drew its share of the public funds.

In January 1879 the Wesleyans had 89 ministers, 269 places of worship, and an average Sunday attendance of 24,690. Their 224 Sabbath schools contained 14,904 children, under 1,793 teachers.

The Primitive Methodists, allied to the Wesleyans, are spreading in the Colony, though much more slowly than in the neighbouring provinces. Their 13 ministers preached in 62 chapels to 7,500 people. In 46 Sunday schools they had 455 teachers and 4,630 scholars. The United Methodists had but recently secured a foothold there, having three ministers.

The Independents, or Congregationalists, had their first leader in the Rev. W. Jarrett, though the Rev. Dr. Ross more effectually organised the body in 1840. They have always declined Government aid in religious affairs.

With 37 ministers, they had 6,909 hearers in 43

NEW SOUTH WALES.

State aid to all denominations.

Presbyterian Church statistics.

First Wesleyan Minister.

Wesleyan statistics.

Primitive Methodists.

United Methodists.

Independents.

NEW SOUTH WALES.

Baptists.

chapels. In their 50 Sunday schools they had 557 teachers and 5,685 children.

The earliest Baptist preacher was the Rev. John Saunders. The body grew to have 18 ministers, 21 chapels, and 2,265 Sunday attendants. For 13 Sunday schools they had 150 teachers and 1,309 scholars.

Quakers.

The Society of Friends were gathered into one fold in 1833, through the visit to Sydney of the esteemed Quaker missionaries, Messrs. James Backhouse and George Washington Walker.

Protestants and Roman Catholics

Other Protestant bodies are feeble in numbers. According to the returns at the end of 1871 there were 339,372 Protestants, 147,627 Roman Catholics, 2,395 Jews, and 7,455 Pagan Chinese.

The Roman Catholic Church in 1879 had 5 bishops, 164 clergymen, 273 places of worship, 52,111 Sunday attendants at services, 325 Sunday schools, with 1,412 teachers, and 18,592 scholars.

In public charities, and in voluntary exertions to raise the fallen, reform the drunkard, and relieve the sorrowful, Sydney has secured, and still maintains, a noble reputation. The newly arrived immigrant will discover no want of benevolent friends if he need them.

Pastoral.**N. S. W. keeps up its reputation.**

New South Wales has always held an honourable position for the production of wool. From this country, as from a pastoral centre, have been procured the first flocks of all the Australian colonies and New Zealand. It has recently been proved that there is no disposition to let the younger settlements rob the parent one of its squatting pre-eminence.

When the colony included Victoria and Queensland, it could have no rival in the world in this industry. The separated provinces have become rivals. Victoria has the best native grasses of the colonies, and Queensland has twice the area now allotted to its parent; but year by year the pastures are improving under better management, and the Old State can still hold its own.

Australia and squatting.

Australia is essentially the squatting region of the world. The United States, the British Dominion of Canada, and even the boasted llanos and pampas of South America, cannot compete with the Kangaroo land for the raising of sheep and the production of fine wools.

It was after he had seen the flocks about Sydney that Peron, the historian of the French expedition visiting the south seventy years ago, penned these remarkable words :—

'The genial temperature of the climate, the absence of beasts of prey of all descriptions, and the peculiar nature and agreeable perfume of all native herbage, have proved so favourable to these precious animals, that the finest races both of Spain and England succeed equally well. Already, we are told the wool of these Antarctic animals surpasses the rich fleeces of Asturia ; and the London manufacturers, who pay a higher price for it, prefer it considerably. For the general picture of the English colonies in Australia, I shall insist in a particular manner on this object, which appears likely to open to Great Britain a new branch of commerce, as easy as it is profitable.'

The Frenchman—who died soon after of a broken heart, as it is said, at being compelled by Napoleon to traduce the name of Flinders and claim the honour of discovery—was right in his prophecy concerning the influence of Australian pastoral undertakings upon the trade of Britain. The capacity of the old Colony for the extension of this interest has not yet been limited. There is still room for new comers, and food for many millions more of the bleating tribe.

One thing is very certain : the climatic conditions of New South Wales are so varied, that it can produce any wool that may be required. This subject has been well described by the official report of the Sydney Exhibition of 1870 :—

'The Mudgee district and other highly favoured localities produce wool which is probably not surpassed by any country in the world. The northern counties, probably best known as the New England district, produce fine, well-grown, sound fleeces, which English manufacturers cannot dispense with. The western and southern counties, which have acquired the designations of the Bathurst and Goulburn districts, can produce in perfection, under proper management, that large and important class known in the trade as middle wools ; while further south, anyone who has a fancy to compete with English growers in coarse wool can do so to his heart's content.'

NEW SOUTH
WALES.
Peron's
opinion 70
years ago.

Still room
for squatting.

Wools of
N. S. W.

NEW SOUTH WALES.

Caution to wool growers.

First colonial stock.

Horses, cattle and sheep in 1879.

Breed of sheep.

Macarthur, founder of Australian squatting.

Wool export.

Pastoral history.

A word of judicious caution, particularly to be heeded by the intending pastoral emigrant, is added to the statement of the Colony's ability to grow every description of wool of value. It is this:—‘The great evil to be avoided is the attempt to grow such qualities as are not suited to individual localities.’

The history of this great industry is an important one.

The original stock landed at Sydney, in 1788, consisted of 1 stallion, 3 mares, 3 colts, 2 bulls, 3 cows, and 29 sheep.

On March 31, 1879, there were, within the much reduced area of the modern New South Wales, not less than 366,094 horses, 2,768,601 cattle, and 23,962,373 sheep.

The first lot of animals were of the Cape of Good Hope and Bengal breeds. The improvement in the pastoral fortunes of the Colony is undoubtedly due to Mr. John Macarthur, once Captain of the New South Wales Corps. As early as 1797 his attention was drawn to the subject, and he imported a better quality of sheep, the Merino, to cross with the hairy-woollen animal then on the colonial pastures.

In 1804, when he returned to England, he placed before manufacturers the Sydney wool, and interested them in the rising product. Examined before the Privy Council, he succeeded in enlisting the interest of Government in his pastoral schemes. When returning to New South Wales, he carried with him specimens of the best sheep he could procure, including some Merinos belonging to the sheep farm of George III.

Others, stimulated by his success and ardour, went into the pursuit. The result was that in the genial climate of New South Wales the sheep increased amazingly, and the wool became the great source of colonial wealth. But Dr. Lang is justified in saying of Mr. Macarthur, ‘The obligations under which he has consequently laid the Colony in all time coming, through his unremitting perseverance and unexampled success, are great beyond calculation.’

The export of wool was only 71,299 lbs. in 1819; but 111,833,017 lbs., above a thousand times as much, in 1878. In 1878, 55,765,233 bales passed over into Victoria.

The sheep had grown to 25,000 by 1810; and were four times that number in 1820.

A wonderful impetus was given to the pastoral interest after the establishment of the Australian Agricultural Company, in 1825. The grant of a million of acres to a few London capitalists was an extraordinary event. The company prepared to make the most of their gift by extensive exportation of goods, the transmission of many emigrants, and the raising of large flocks and herds.

The introduction of so wealthy and eager a customer forced up prices of colonial stock to an unheard-of extent. Five guineas a head were freely given for sheep, and cattle sold at equally absurd prices. A perfect mania followed. Dreams of wealth disturbed the placid colonial mind. Visions of future greatness by the export of wool begot a ruinous system of speculation, and purchasers found others eager to advance upon their rates at sales.

The usual result ensued. The tide turned, and many were ruined, while prices descended to their old position.

Another pastoral rage seized the Colony after the settlement of Port Philip, when the five guineas per head were commonly and readily given. But again, about 1843, the crash came with intense earnestness. The Colony was in a most depressed state. It was a grim joke of the times that a retired London tradesman might easily have bought up all the settlers. Stations in New South Wales were hard to dispose of at the rate of two or three shillings a head. Mr. Benjamin Boyd bought several sheep-stations at eighteen pence a head.

Fluctuations in the wool market have since caused fortunes or failures, and seasons have been more or less propitious to the flockmaster; but no subsequent great depression has taken place. For the future, unless absurd miscalculations or mismanagement may occasion losses, no one authority ventures to predict any decay of the pastoral interest in New South Wales.

At first, sheep were kept on the grants of land made so freely by the Crown in the primitive days. But the increase of stock called for the extension of pastures. Outside there was land occupied by no one, claimed by no one. The original sheepmaster, therefore, carried

Sheep five
guineas a
head.

Rash sheep
specula-
tions.

Sheep at
18d. a head.

Early
pastures.

NEW SOUTH WALES.

forth a part of his flock, and ran them on the untenanted wastes.

No objection was presented by Government, as no blame could be attached to men utilising otherwise useless territory, and so adding to the national resources.

But an evil grew up with the good times. Persons who owned no land whatever presumed to buy sheep and cattle, and depasture them upon the public lands. Some were accused of obtaining their stock by robbing the flocks and herds of others, and altering the brands. The ignominious appellation of *squatters* was applied to such wandering shepherds. The term has since got applied to the regular pastoral pursuit, and has lost its former offensive meaning.

'Tickets of occupation' were given in early times to persons whose character and position would be a guarantee for their respectability of behaviour, and a respect for the laws of property. The holders of these could graze their animals upon the Crown lands.

A stringent regulation of 1826 demanded a pound rent for each hundred acres so occupied, and yet gave no security of tenure. Then the freeholder or leaseholder was enjoined to make use only of unalienated land near his own homestead, for which he paid half-a-crown per hundred acres, and was subjected to a month's notice to quit if required by Government.

In 1831, the first proper squatting regulations, as we should term them, were issued. By these, blocks, one square mile each, were put up to auction at an upset of a pound, on annual leases only. Should such land be afterwards sold, one month's notice was all accorded to the lessee.

The effect was that the law was unblushingly evaded. The unauthorised *squatters* grew bolder with success. As Dr. Braim observed, 'If Government found it difficult to prevent unauthorised occupation *within*, the case was a hundredfold worse *beyond* the boundaries, where no civil or military force existed, but where every man did that which was right in his own eyes.'

Crown Lands Commissioners were appointed about forty years ago to withstand the encroachments of these rovers of the wastes.

Governor Bourke was the foremost to regret any

Rude squatters.

Change of meaning.

Crown lands.

First leases, 1826.

Squatting annual leases, 1831.

Lawless occupation of Crown lands.

enforcement of the law upon outsiders. He acknowledged the necessity of expansion, from the enormous development of the pastoral occupation. He told the Home Ministry that something must be done to meet the circumstances of the case, or, said he, 'the colonists must otherwise restrain the increase, or endeavour to raise artificial food for their stock.'

He added, 'Whilst nature presents all around an unlimited supply of the most wholesome nutriment, either course would seem a perverse rejection of the bounty of Providence.' In concluding this despatch, in 1835, he asks, 'How may this Government turn to the best advantage a state of things it cannot wholly interdict ?'

The rush to the pastures of Port Phillip that very year brought matters to a crisis. The Sydney authorities acted according to law in issuing a proclamation forbidding the trespass, and warning people off the sweet grasses of the wild southern land. It was as efficacious as the subsequent warning given against the tearing up of Crown lands in the search for gold.

Sir George Gipps, in 1840, saw the difficulty, and wrote, 'As well might it be attempted to confine the Arabs of the Desert within a circle traced upon their sands, as to confine the graziers or wool growers of New South Wales within any bounds that can possibly be assigned to them.'

Some relief came in 1836, when licenses were issued by the Commissioners, and upon terms which drew most stockholders to pay a moderate sum, and so secure protection.

Collisions with the natives beyond the boundaries of the settled district called for the organisation of a police force. To cover this extra outlay, Government compelled the licensee to pay an annual assessment of one halfpenny for a sheep, three times as much for a beast, and six times for a horse. But there was still no certainty of tenure for a pastoral tenant.

Successive enactments, described under the head of 'Land Laws,' led to more liberal treatment of flock-masters, and the consequent increase of the flocks and herds of the Colony.

In New South Wales, however, as in Victoria, the inroad of immigrants, and general advance of things,

NEW SOUTH WALES.

Governor
Bourke for
more
liberal
leases.

Licenses
in 1836.

Annual
assessment
of stock.

No certain
tenure.

Secure
leases
granted.

The farmer
versus the
squatter.

NEW SOUTH WALES.

Good times still for squatters.

compelled another alteration in the laws. The squatter, who had for many years been the petted one of the State, saw with dismay the progress of agricultural settlements, and the demand for farms upon the pastures of the wastes.

Although, in a certain sense, the best times of the squatter appear to have come to an end with the march of the 'Land Selectors' on his run, no reasonable person doubts that very good times remain, and will long continue, for the pastoral tenant.

Improved breeding has occupied attention lately, deterioration having been especially noticed in the cattle and horses. The disorder and derangement which followed the gold discovery in 1851 had a prejudicial effect upon stations. Stock was not so well looked after as before, and careful separation of flocks and wools was less conspicuous.

Improved breeding.

Horses, especially, became not so valuable for quality, and the export to India for cavalry, once so important a trade, fell off rapidly. The revival of thoughtful attention to breeding is now causing fresh enquiry to be made after shipments.

Cattle, in like manner, have been studied to advantage, and large sums given for improved breeds. Prudence has also been exercised as to the ground on which beasts have been found to thrive best, and where sheep may not do so well. Shorthorns have the preference, though there are many Herefords and Durhams.

Saxon sheep.

About 1840 a mania arose for Leicesters and other coarse-woollen sheep, which most seriously affected the wool returns of the Colony, and forced an abandonment of the plan. The introduction of Saxon sheep has been a fortunate one for New South Wales, where the animal is found to do exceedingly well, and yield a wool that produces a good price in the London market.

**Pastoral leases
150,000,000 acres.**

The land now leased for pastoral purposes there amounts to nearly one hundred and fifty millions of acres. The increase of sheep during 1873 was very large. The Wagga Wagga District increased in the year from 761,692 to 1,031,293; and Dubbo District added one-fifth to its flocks. Sheep, in 1880, were 25,000,000.

Sheep-farming, notwithstanding some vicissitudes, has been a profitable pursuit. A succession of dry

seasons will occasion a fearful loss to the squatter, while floods are destructive to flocks on the lowlands. The animal is less subject to disease in the Colony than in England, though catarrh has at intervals appeared as an epidemic. Foot rot and scab are the chief troubles.

The Scab Act is vigorously enforced. Boundary riders are employed by Government near the Murray river to guard against the migration of diseased sheep from Victoria. A quarantine is established at the sea-ports, where newly-arrived animals are dipped and dressed before landing. The Colony has, along with its neighbours, prohibited for two years the import of stock from Europe, because of the prevalence of disease among flocks and herds north of the equator.

In the 1878 returns of the colony, of the 111,833,017 lbs. of wool, 55,765,233 lbs. were overland, and 56,067,784 lbs. of sea wool; the value was 5,256,038*l.* The tallow export of 1878 was 60,035 cwt., valued at 96,076*l.* The export of hides and leather realised 152,798*l.* The wool of 1873 averaged 4 lbs. 11 oz. greasy, and 3 lbs. 1 oz. washed.

In addition to this source of wealth, the exports overland in 1878 to the neighbouring colonies of Victoria and South Australia were 2,423 horses, 48,950 cattle, and 572,534 sheep.

Meat-preserving has become a great industry. When, thirty years ago, in consequence of the low price of wool, the squatters were suffering, one Mr. O'Brien, of Yass, suggested the boiling down of animals for their tallow. This process at once raised the price of sheep from about half-a-crown to eight shillings a head. In 1871 there were 306,799 sheep boiled down for their tallow in the Colony.

The first meat preserved in New South Wales consisted of only 20 packages. This was in 1862. In the year 1878 the export was 21,524 packages, of the value of 42,581*l.* Salted meat has been sent to the South Sea Islands, the Mauritius, and some of the colonies, for several years past. Ramornie meat-preserving establishment was started in 1866.

The freezing process, very recently perfected, will befriend the squatter and the European poor.

The Auditor-General of New South Wales a short time

Scab.

Pastoral
produce.

Overland
export.

First boil-
ing by Mr.
O'Brien.

NEW SOUTH WALES.

The Auditor-General of N. S. W. on the Pastoral returns. Sheep and wool statistics.

Squatters' returns.

ago read a paper before the Royal Society in Sydney, in which he made these remarks upon the pastoral interest :—

'The tables of the Registrar-General, which exhibit the export of wool—the produce of the Colony—furnish the following information : They show us that in the year 1862 our flocks produced 20,988,393 lbs. of wool, of the estimated value of 1,801,186*l.*, which gives an average of over 3 lbs. 6 oz. per sheep, and an estimated value of nearly one shilling and nine pence per pound. In 1866 the production had increased to 36,980,685 lbs. of wool, with an estimated value of 2,830,348*l.*, or a little over one shilling and six pence per pound ; thus exhibiting an increase in the production to the extent of 76 per cent. Whilst in the last five years of the series, that is, in the year 1871, the exports reached the highest figures ever sent away, namely, 65,611,953 lbs. of wool, and the estimated value of 4,748,160*l.*, or a little over one shilling and five pence per lb. Not far short of five millions sterling, and equal to an increase of production of 212 per cent. in ten years, and nearly 80 per cent. in the last five years. The clip of 1871 gave an average yield of four pounds per sheep, that is, ten ounces over the clip of 1862, owing, probably, in great measure to the larger proportion of wool going home in grease. We have no means of ascertaining the actual return proceeds of the clip of last year (1872) ; indeed it cannot yet have been all realised. I shall not be accused of overstating the case, however, if I put down the surplus return to the Colony, over and above the value before stated, at a million and a half sterling, thus bringing up the value of the clip to six millions and a quarter sterling.'

He proceeds further to describe pastoral profits from other sources, and concludes thus :—

'If we add this to the amount previously estimated, we shall arrive at an aggregate sum exceeding eight millions and a half sterling, as the total estimated value of our pastoral exports for the year 1871 ; viz. :

Wool, seaward	£	4,748,160
Tallow, &c.	£	468,606
Wool, Live Stock, Tallow, &c., overland	£	3,381,867
Grand Total	£	8,598,633

It has been shown that much of the settled district—the twenty original counties—is devoted to pastoral pursuits. But in the 98 counties outside of that portion the so-called pastoral districts are situated. All the land for pasturage used in 1878 was 231,945 sq. m. at £11,452*l.* rent.

Though a small portion of freehold land is devoted to depasturing animals, the far larger proportion is leased by the Government. A statement of the conditions under which a person may thus become a tenant of the Crown will hereafter be seen under the head of Land Laws.

Most pastoral land rented from Government.

Agriculture.

As the oldest colony, New South Wales might be presumed to be the most advanced in agriculture. It will be found, however, that more scientific farming exists in Victoria, while South Australia and New Zealand produce, relatively, a greater amount.

N. S. W. not the most advanced.

The early convict settlers were very poor farmers. The soil was neglected, and the work badly performed. Complaints were made of the intemperate habits of these primitive cultivators, and the consequent misery of their huts. The yield was small, and the waste was deplorable.

Early farmers.

Though the first farms were in small grants of land, they were of sufficient acreage to support a family, had proper care and diligence been exercised. Plots far less in extent, and of even worse soil, have raised many families to opulence elsewhere. Without doubt the improvement in colonial agriculture came with improved morals, and the advent of free immigrants.

Within sixteen years of the settlement in 1788, a small party of Scotch emigrants located themselves on the Hawkesbury river, and set a good example in tillage and behaviour to their neighbours. The publication of Mr. Wentworth's work on New South Wales in 1823, induced a good number of British farmers to go out to the better land.

Scotch farmers.

Although, as elsewhere in the colonies, a great prejudice exists against what is called the home system of cultivation, yet the old methods, even in the oldest colony, are gradually giving way before the progress of judicious and scientific processes. Agricultural societies, and ex-

Mr. Wentworth's work on the colony.

Improved cultivation.

NEW SOUTH WALES.

hibitions of produce, have done much to develop a better state of things. Even now there is a fine prospect for an immigrant if thoroughly acquainted with modern ideas, and sufficiently provided with capital for working a farm.

New South Wales has not perhaps the same proportion of fertile land to be found in England, New Zealand, or Victoria, owing to want of rain westward.

It may be said that three-fourths of the area, at least, is only fit for pasturage, and that much of the remainder will only yield a good return under effective management. As it is, there were but 613,642 acres under crop in 1878 out of 206,200,000, or about one acre to every 335 acres.

613,642
acres in
crop.

N. S. W.
still im-
ports flour.

Variety of
soils.

The small population—a little over half a million—would require but limited fields to feed them. And yet the Colony, even in 1878, had to import not less than 780,600 bushels of wheat besides 33,174 tons of flour.

The geology of the country, near the seat of the original settlement, is unfavourable to farming. For many miles north, south, and west of Sydney, the rock is sandstone, wanting in rich phosphates, and retaining little moisture. The banks of rivers, as the Hawkesbury, the Hunter, &c., have splendid soil, and return a fine harvest. The presence of basaltic and other igneous rocks is a safe indication of good ground. In the flats of the Pacific streams, especially toward the mouth, the farmer is well rewarded for his efforts.

Agriculture pays better since the country has been opened up by railways, and so many ports have been visited by steamers. Improved implements, the increase of machines, the employment of guano and of artificial manures, together with a larger investment of capital under thoughtful management, all tend to make New South Wales a more promising field of agricultural enterprise.

Range of
products.

The climate is such that the products of both temperate and tropical regions may be raised there. On the lowlands by the coast, sugar and rice can be grown; while, in the highlands, cereals and English fruits are easily procured.

The British style of farming can be successfully carried on upon the plateaux north, south, and west of Sydney. There, with a cooler temperature and an abundance of

good soil, a healthy and prosperous homestead may be established.

The Colony has suffered in reputation as to its agricultural capabilities in consequence of the earlier settlements having been placed upon the poorer lands. The old grants, and the sales, until very recently, were confined to the sandstone region of the settled district. All the rest of the province was closed against the farmer by the squatter.

Now, however, that the liberal policy has been inaugurated, men may obtain farms on the rich lands at a distance, and especially among the hills. It follows that New South Wales is declared able to grow almost every vegetable product with ease and success. But it is not enough to know how to obtain such a promising field of culture. Means must be afforded to bring the produce to market.

Fortunately for the grower, the gold mines have burst forth in localities more desirable for cultivation, and have brought the consumer and producer most happily together. The digger has a cheaper table, and the farmer is better paid for his toil.

The railway, after all, is the distributor of trade. The Colonial Parliament, conscious of this advantage, has vigorously aided the cultivator by a judicious railway scheme, most perseveringly carried forward. When the charming retreats in the Alps, the Blue Mountains, and the Liverpool ranges are brought into connection with the rest of the Colony by *lincs*, new comers will not complain of the want of remunerative farms and enjoyable homes.

Within the twenty counties of the so-called 'Settled District,' not one-third is purchased land, the rest being still held by the Crown, and leased out to the pastoral tenants.

Of the ninety-eight counties outside of that limit, but one-fifteenth is alienated. In the whole Colony, eight per cent. of the land is sold and seventy-five per cent. is leased to squatters; therefore nearly one-fourth of the area is wholly unoccupied.

In 1871 there were 12,740 freeholders and 8,005 lease-holders in the settled district, and 6,496 of the first and 1,933 of the last in the pastoral country. In the colony, 1878, were 37,887 holdings of 21,471,596 acres.

The
digging
brought a
good
market.

Railways
help the
farmer.

Only 8 per
cent. of the
land sold.

Freeholders
and lease-
holders.

NEW SOUTH WALES.

The improvement in the number of the latter was owing to recent land laws placing *selectors* and farmers in the midst of squatters.

The most productive districts were Albury, having 43,260 acres under crop; Orange, with 18,430; and Bathurst, with 17,558 in 1878.

Progress of Cultivation.

The growth of agriculture may be observed in the following table of acres under cultivation:—

1825 . . .	45,514	1854 . . .	131,857
1833 . . .	60,520	1866 . . .	260,798
1840 . . .	126,116	1865 . . .	378,254
1850 . . .	198,056	1878 . . .	613,643

The great falling-off after 1851 arose from the rush of men from fields to diggings. Seasons, also, affect the cropping; as 1871 had fewer tilled acres than 1870.

For a long time the cultivation was almost confined to maize, wheat, and a small amount of potatoes. Garden produce and fruit were raised near towns, and tobacco was grown by the settlers for sheep dressing.

The average under crop in 1871 is thus classified.

Crops and average in 1871.

		Settled Districts	Pastoral Districts	Total
Wheat	99,633	54,366	154,030	
Maize	79,819	40,136	119,056	
Barley	2,485	976	3,461	
Oats	8,773	5,021	13,794	
Rye	1,196	146	1,342	
Green Fodder-maize	907	365	1,174	
" sorghum	290	117	417	
" barley	1,022	200	1,222	
" oats	685	216	901	
" rye	161	112	273	
" millet	29	11	40	
" grass	24,388	3,384	27,772	
Hay-grass	10,117	1,369	11,486	
" wheat	6,790	2,012	8,802	
" barley	468	241	709	
" oats	24,282	6,525	30,807	
Potatoes	11,453	3,316	14,769	
Vineyards	2,627	1,525	4,152	
Tobacco	543	24	567	
Sorghum grain	20	12	32	
" green food	300	117	417	
Sugar cane productive	722	1,272	1,994	
" unproductive	1,067	1,332	2,399	

While demand provoked supply, the increase of growers and an advanced range of product called forth fresh customers. New South Wales is no longer willing to depend upon Tasmania for potatoes and South Australia for wheat. Luxuries have developed the cultivation of things previously neglected. There can be no doubt, therefore, that with the stretch of acreage there will be the expansion of articles of growth, and a larger percentage of production on the area.

The most wheat was grown in Bathurst county and in the Murrumbidgee district; maize, in Macquarie county and Clarence district; hay from grass, in Durham county and Monaro district; hay from wheat, in Roxburgh county and Murrumbidgee district; hay from oats, in Cumberland county and Murrumbidgee district; tobacco, in Durham; potatoes, in Camden and St. Vincent counties and New England and Monaro districts; sorghum, in Cumberland and Monaro; arrowroot, in Northumberland; vines, in Northumberland and Cumberland counties and the Murrumbidgee district; sugar-cane, in Macquarie county and the Clarence and Macleay district. These remarks apply to the crop of 1871.

The yield for the year ending March 1879 was:—

Localities
of greatest
produce.

Amount of
yield, 1879.

		Produce	Acres
Wheat, bushels	.	3,439,326	233,252
Maize	,	4,420,580	130,582
Barley	,	132,072	6,152
Oats	,	447,912	22,129
Rye	,	22,563	1,302
Millet	,	5,023	254
Potatoes, tons	.	53,590	16,724
Tobacco, lbs.	.	888,422	835
Sorghum, tons	.	86	47
Sugar cane, cwt.	.	2,083,844	2,949
Arrowroot, lbs.	.	47,484	27
Wine, galls.	.	681,733	4,237
Brandy, ,	.	2,510	—

Maize is undoubtedly the reliable crop of the Colony. Maize. The dry climate is favourable to it. It is strange that, while it has become in America so common an article of food for man, it should be used only for horses, cows,

NEW SOUTH WALES.

Wheat.

Diseases in wheat.

120 bushels maize and 60 wheat to acre.

English grass.

Grass cloth.

Tobacco.

and pigs in Australia. Better varieties might be procured for the table.

Wheat, as has been mentioned, can be grown well in the highlands of New South Wales, beyond the area of the light sand soils, but where strong clays and rich volcanic ground are to be had. The red sorts are generally lighter bearing than the Golden Drop, White Prolific, White Velvet, Winslow, &c. The *rust* is a plague there as well as in Europe, though best withstood by the bearded wheat. The red rust seems to be dependent upon certain atmospheric conditions. It does not come from the root, but attacks stem and leaf first. The black rust may be greatly avoided by pickling and good working. Colonial authorities are of opinion that the red rust is not caused by exhaustion of the soil, as was once believed; nor is it propagated, like smut, from diseased seed.

That terrible foe to wheat, known as the *take-all* in South Australia, has spread beyond the Adelaide plains. It is not dependent on either soil or weather, and attacks the native grasses not less than the European cereals.

It appears first in patches, radiating from a centre. All sorts of causes are assigned for it; as, too much salt, the want of drainage or manure, insects, &c. Sulphur and wood ashes are useful upon the appearance of this enemy to the farmer.

Maize is a more productive crop than wheat. It is commonly used to prepare new ground for other vegetable products. As much as 120 bushels to the acre have been gathered as a first crop on the rich flats of the Clarence. Sixty bushels of wheat have been known in favourite uplands.

English grasses, though not wholly neglected, cannot be expected to thrive as in the moist climate of New Zealand. But some things quite suitable to the Colony are only commencing to be grown. Flax does admirably there. The caper plant would pay for cultivation; especially where the children of the farmer could gather the fruit. The grass-cloth plant (*Bactheria nivea*) has been raised with great advantage.

Tobacco, though so long attended to for sheep-wash, is beginning to be cultivated for manufacturing pur-

poses. The plant, so easily injured by wet and frost, seems peculiarly adapted to the climate of New South Wales.

NEW SOUTH WALES.

Until lately, scientific farming was scarcely known in the Colony. Tobacco requires some care to produce the best qualities. The account of average of it during 1871 will show, probably, the favoured localities. Durham had 375 acres; Gloucester, 122; Macquarie, 33; Northumberland, 13. In the pastoral districts there were but 12 acres devoted to tobacco in the Murrumbidgee; 9 in the Clarence; and 1 in the Monaro.

But while the cultivator does his part better than of old, the manufacturer has not equally progressed with his work.

The complaint urged against the article was that it had a strong and even unpleasant flavour. This was mainly to be attributed to want of care on behalf of the manufacturer. There has been of late so decided an improvement that colonial-made tobacco has sold well, and been much admired, though only by the employment of the brand *Havannah* for the home produce.

Tobacco
not well
made.

Arrowroot has been mainly grown in Northumberland. It is just such an article as could be easily raised by the small farmer; whose family in that warm climate would have thus a pleasant and nutritive food.

Arrowroot.

The potatoe region of New South Wales is indicated by the acre return. Camden had 1,503, and St. Vincent 1,360; while New England district boasted of 990, and Monaro of 846 in 1871.

Potatoes.

Barley is cultivated most in Roxburgh county, and a little is gathered on the highlands of the Murrumbidgee. It is generally an uncertain crop in Australia, and does best in New Zealand. Oats were grown in Cumberland to the extent of 6,678 tons in 1871; though the Colony is largely indebted to its cooler neighbours for this useful grain.

Barley an
uncertain
crop.

The grape does admirably in New South Wales. In some of the north-eastern portions, and still more so in the southern Murray river country, on the western slopes of the mountain ranges, the wine is esteemed delicious in flavour, and equal to that of many of the valued European brands. In vineyards, in 1871, Northumberland had 774 acres; Durham, 399; Cumberland,

Oats.

Grapes.

NEW SOUTH WALES.

654; and Gloucester, 134. The Murrumbidgee district had no less than 1,114 acres; the Lachlan, 108; and the Clarence, 66.

Wine. As to the paying character of vigneron work, a competent authority states that 400 gallons an acre may be calculated upon. This, at the low price of two shillings a gallon, would produce 4,000*l.* on a vineyard of 100 acres. While 144,888 gallons were made in 1863, 413,321 gallons were produced in 1872, and 451,450 in 1873. In 1877, 708,432 were made.

Beer versus wine. The displacement of rum by wine would be a gain to health and morals. Beer can only be made during three months of the year, and the barley does not thrive in the climate; so that it is probable New South Wales will ultimately become a wine-consuming community.

Oranges and other fruits. Oranges are very plentiful, and are largely exported to the neighbouring colonies. The orangeries of Parramatta, Young, and Tumut yield a handsome return to the grower, even when 2,000 feet above the sea. The first chaplain of the Colony, the Rev. Mr. Johnson, established this useful industry at Rose Hill. Bananas, loquats, pineapples, and ground-nuts are also raised for exportation. The uplands produce all the English fruits in profusion.

Sugar. Sugar is the coming industry of New South Wales, though not likely to be so important a one as in Queensland and the Northern Territory, whose warmer and moister climate is so much more favourable to the culture of the cane, realising, too, a larger yield to the acre. The frost, from the vicinity of hills, is the chief foe to this colony's cane.

In 1863, only two acres of New South Wales were devoted to sugar, and the produce was 280 lbs. Four years after, the amount was 116 acres. In 1878, the productive acres were 2,949; the unproductive, 4,489. There were 8,160 tons of sugar from 60 mills in 1878. As the yield is less than in Queensland, it will be some time yet before the Sydney table is supplied from home manufacture.

The profit is undoubtedly, if Mr. Angus Mackay's calculations be correct, as he put down £12 10*s.* for the expenses per ton, or not above one-third of the return. The growth can be managed by a man of very small

capital, though the manufacture requires a considerable outlay for machinery.

The principal localities for the cane are the rich flats toward the mouth of the Tweed, Richmond, Clarence, Bellinger, Nambucca, Macleay, Hastings, Manning, and McLean rivers, lying between $28\frac{1}{4}^{\circ}$ and $32\frac{1}{4}^{\circ}$. Sorghum and imphee, however, can be grown inland, and on higher ground, while the produce of sugar therefrom is pronounced of remunerative character, though the plant is grown chiefly as green fodder at present.

In 1871 there were in Cumberland 117 acres of sorghum; in Camden, 95; in the Monaro district, 47; and in the Murrumbidgee, 22. But while there were 149 acres of sugar land in Gloucester, and 1,547 in Macquarie county, there were 616 in the McLeay, and 1896 in the Clarence district.

Silk is likely to become an export soon. The climate silk. is suitable for the worm, and the varieties of mulberry thrive exceedingly well. The picking of the leaves, and attention to the insects, need take little time, and involve no heavy labour. The grain, or eggs, are of a healthy character, giving promise of a more successful treatment than in France and Italy.

Sericulture in New South Wales has another advantage over that of Europe, in the cheapness of colonial land as compared with the soil of Lombardy, &c. The labour of women and children can be utilised in this pursuit, without that sacrifice of home attending factory work. The Japanese worms yield white, yellow and green cocoons.

NEW SOUTH WALES.

Sugar districts.

Sorghum and imphee.

Sericulture prospects.

Mining.

The mountainous part of New South Wales is one of the richest mineral regions in the world. Gold, silver, tin, copper, lead, iron, and coal abound there.

The gold takes precedence of all: yet coal and iron will, in the future, make the colony, perhaps, the leading one in manufactures. Though the bright metal was found at the Fish river in 1823, in the Alps by Count Strzelecki in 1840, near the Macquarie by the Rev. W. B. Clarke in 1841, at Berrima by Mr. Smith in 1849, and in other places at various times, yet the first gold field was announced in 1851.

Gold in 1829, &c.

**NEW SOUTH
WALES.**

Hargraves finds the first gold field in 1851.

Mr. Edward Hammond Hargraves returned that year from the Californian diggings, and publicly proclaimed the existence of alluvial gold at Summerhill Creek, toward Bathurst, in April, 1851. The government geologist, Mr. Stutchbury, reported upon the gold of Ophir in May. On the 22nd of May the governor forbade any unauthorized digging for the precious metal, though subsequently selling licenses for the work.

The Rev. W. B. Clarke, who had written a geological article for the Sydney paper in 1847, in which he said that auriferous sands would be found in the streams flowing from the Blue Mountains, gave every encouragement to the prospecting miner of 1851. This Christian philosopher then declared: ‘The Colony must prepare herself for an important growth in her influences on the destinies of the world.’

The wild excitement following the discovery, and the rapid development of other mining centres of attraction, are well known facts. Gold fields burst forth almost simultaneously at many different points along the mountain chains of New South Wales and Victoria.

Licenses for Miners.

Diggers paid thirty shillings a month for their license. The first proclamation gave them leave to pay this in cash or gold; if the latter, it must be at the rate of forty-eight shillings per ounce when obtained by amalgamation, or sixty-four if procured by simple washing. The first commissioner, Mr. Hardy, gave twenty feet frontage to a river when the party consisted of from three to six persons.

Mr. Hargraves received a handsome sum from the governments of Sydney and Melbourne. His credit lay in the publicity of his announcement, and the accident of a Californian gold fever. When Mr. Clarke was asked why he had kept his discovery so long quiet, he replied, ‘I considered that to say much about it would be very much like offering a reward for escaped robbers and murderers.’ Although, however, considerable social disturbance occurred for a time, it may be seriously questioned whether, on the whole, the gold fields have not been the means of advancing the moral and religious progress of the Colony as much as its material welfare.

Progress of

The process of digging was very rude at the begin-

ning. The Californian 'Tom' came to the help of the spade and cradle. The puddling machine followed, although the hydraulic pressure is the most efficient of washers. In the same way, the simple burning and cracking of quartz stones has given place to the stampers driven by steam, with other efficient contrivances of modern science.

In 1878 the Colony boasted of 35 puddling machines, 4 hydraulic hoses, and 90 crushing machines. Of late years, the yield of gold in New South Wales had been gradually declining. Up to the end of 1878 the Sydney Mint had coined 42,534,000*l.* The eighty gold fields extend over an area of 14,000 square miles, and were in 1878 worked by 7,000 miners.

The yield has suffered a considerable decline since 1862, owing, perhaps, less to a falling off of mines, than to the attraction of other *leads* in Victoria, Queensland, and New Zealand. The value of the escort receipt in 1862 was 2,212,534*l.* The year after it was 1,629,047*l.* It gradually decreased till 1870, when it was only 763,655*l.* But the next year it rose to 1,143,781*l.*, and the yield has since been even higher. The highest yield was in 1852, being 962,873 ounces, or double that of 1868. For 1872 it was 396,000 oz.; 1878, but 119,665 oz. The total yield to end of 1878 was 32,928,582*l.*

The export of gold has rated above the escort returns, as the largest proportion of Queensland produce reached the port of Sydney. Thus the export for the year 1863 amounted to 2,361,949*l.*; and for 1870 as much as 1,585,736*l.* These amounts include the gold yield of the Colony, together with that received from other places to be converted into bars and coin at the mint. In 1878 the export of gold coin in 400 boxes was valued at 1,653,911*l.* Of that, two-thirds went to England, one-ninth to Victoria, one-eighth to Hong Kong, and one-thirtieth to New Zealand.

The quartz mining has become of increased importance. In July, 1852, a native found at Louisa Creek some quartz specimens, producing 106 lbs. of gold. In 1878 there were 3,489 acres taken up for quartz mining.

Some remarkable yields have been recorded. One Field, a shepherd, discovered a rich reef, which has yielded in five years 723,642*l.* A quartz claim gave a hundred-

NEW SOUTH WALES.

Mining machinery.

80 gold fields.

Gold mining improving.

Total export,
32,928,582*l.*

Gold coin.

Quartz mining.

NEW SOUTH WALES.

Gold localities described.

weight of gold from twice the weight of stone. In January of 1878 it was reported that 6½ cwt. contained 2 cwt. of gold. The yield in 1877 averaged 1 dwt. 2 grs. per ton of wash-dirt, and 18 dwts. 14 grs. of quartz.

The New South Wales gold fields are divided into 8 gold districts—Bathurst, Turon, Mudgee, Lachlan, Southern, Tumut, Peel, and New England.

The chief localities of the western mines are Sofala, Bathurst, Tambaroora, Mudgee, Gulgong, Greenfell, Carcoar, Trunkey, Orange, Turon, Lachlan, and Wellington. Cargo and Barrington are very rich.

Those of the southern are Goulburn, Braidwood, Adelong, Tumut, Wagga-Wagga, Araluen, Burrangong, Tumburumba, Kiandra, and Gundagai.

In the northern are Rocky River, Armidale, Tamworth, Glen Morrison, Gulph, and Nundle. In 1878, the West gave nearly half the gold returns.

The fields of Timborra, Ironbark, Peel, and Boorook are in the north; Kiandra, Delegete, Shoalhaven, Jugiong, Emu Creek, and Jembaicumbene are in the south; Lachlan, Turon, Ophir, Meroo, Cudgegong, Tuena, Mitchell's, and Apple-tree Flat are in the west. Deep-leads have been lately found near the Billabong and Lachlan, and reefs at Backcreek and Yalwall.

The gold regulations of the Colony require that a miner pay 10s. for a license from January 1st to December 31st, while a business license costs twice as much.

The ground allowed is 30 feet frontage to a river; or for other alluvial working, 60 feet by 66 each man of a party of four. An ordinary quartz claim is 50 feet along the reef, and 100 yards in width each side.

Leases are granted for 15 years on abandoned alluvial gravel of from one acre to 25 acres, at 1*l.* an acre; or from 200 or 1,000 yards of a river bed at 1*l.* per 100 yards. Sluicing claims are 10 acres each.

In the leases of quartz reefs, for less than 15 acres, the allowed width is 100 yards, and the length from 96 to 323 yards. For 15 and 20 acres the width is 150 yards, and the length 484 and 645 yards. For 20 to 50 acres the grant is between 600 and 1,260 yards in length, and 200 yards breadth. The smallest claim must have 4 men, and the largest, of 50 acres, 100 men. The annual rent runs from 4*l.* for 2 acres to 100*l.* for 50 acres. The

Extent of digger's claim.

Leases of auriferous land.

Leases and rentals.

escort fee is 8d. per ounce. The export duty, 1s. 6d. an ounce, was afterwards repealed.

Copper promises favourably. The area of copper country is 6,713 square miles, and total export 1,891,927l. The produce for 1878 has been valued at 166,201l. Bathurst and Monaro are the chief localities of its production. The Cobar mine, Darling District, was the best paying one, though Mullom, Hall and Peelwood do well.

At Quedong, of the Alps, the metal is found at the junction of the slate and fossiliferous limestone. Good ore was got from Lockyersleigh, near Goulburn, from Pudmin Creek of the Lachlan, from the Macquarie, the Louisa, and the McLoughlin, Mount Canobolas, Currawong, and the junction of the Queanbeyan and Murrumbidgee. A specimen brought from Bathurst contained eighteen ores and other minerals mixed together.

New South Wales is not, perhaps, so rich in copper as South Australia and Queensland, though much superior to Victoria. The copper of Orange District extends over twenty miles square, and Monaro wealth cannot be ascertained from the inaccessibility of the country. Currawong mine, by Lake George, is now let on tribute. A mass of 110lbs. was got at Molong. At Mount Hall, near Hay, 40 tons of ore ran from 45 to 70 per cent.

Silver lead is obtained at Wolgarlo, on the Yass river, at Moruya, at Boorook, at Scone, in the basin of the upper Murrumbidgee, and at the Isis river. Antimony raised in 1878 realised 1,964l.

Iron, though often of high percentage, and found near both coal and limestone, is worked with difficulty, owing to rate of wages and cost of carriage. The railway to the Fitzroy mine of Nattai river, will make it more available. The Lithgow iron in 1878 was valued at 6,656l. This iron mine has been recently sold for 7,600l. Lime-stone and coal are contiguous to iron.

This useful metal abounds near Combing, Warran-bungle, Port Macquarie, Monaro, Berrima, Modbury, Shoalhaven, Murray County, Araluen, Wallerawang, &c.

Tin, during the past and present years, has been produced in New England, near the Queensland border. Of that rich tin ground New South Wales possesses two-thirds of the area. Tenterfield and Inverell are the centres of this wonderful region; though the metal has been found near Albury, in the Tumut river.

NEW SOUTH WALES.

Copper mines.

Silver lead mercury.

Iron very promising.

Tin very rich.

NEW SOUTH WALES.

In 1877 there was taken up in tin leases about 43,615 acres. The ore fetched in Sydney from 60*l.* to 80*l.* per ton; though some sold in November, 1872, as high as 138*l.*, and the export to 1878 was 2,376,000*l.* Yet Mr. Surveyor Wilkinson wrote, on December 6th, 1872, that 'in Mr. Holme's claim, eleven cwts. of stream tin in one day have been obtained by twelve men.' One mine got fifty tons in six months at Cope's Creek. A mass of tin crystals, weighing 20lbs., was brought out of a layer of white cement. Tributaries of the Upper Murray show 70 per cent. of pure tin. Diamonds of great beauty are now being discovered in tin streams. At Tamworth they average 35 to every six tons washdirt.

The enthusiastic Mr. Clarke exclaims, 'I am impressed with the opinion that for centuries to come the industry now commenced will continue to occupy a prominent position among the producers of colonial wealth, just as the mines of Tenasserim, Merghui, and Malacca have not decreased in value since the commencement of their working.' Diamonds and other precious stones are found at Oberon, Bingera, and in several of the tin bearing streams of the colony. Tin raised, 1878, 395,822*l.*

Mineral wealth. Coal mines. But coal is, after all, the most valuable of the natural wealth of New South Wales.

As previously mentioned, under the head of *Geology*, the area of working fields is large, and the mineral may hereafter be found to run under the great plains to the eastward.

Extent of coal-field. Mr. Keene, the coal inspector, wrote thus of the extent of the formation:—'I have examined seams more than 700 miles to the north of Newcastle, belonging to the same deposits as we are now working in the Hunter, covered or overlaid by the same fossils, fauna and flora; and we may, without boasting, claim to rank with the most extensive coal-fields in the world.'

Mr. Mackenzie, the present coal-fields examiner, estimates the area at about ten million of acres, and speaks of *one seam alone*, if extending over that area, supplying Great Britain's demands, at the existing rate, for 750 years. The Newcastle coal produces better gas but poorer coke than English coal.

Coal at Newcastle. Towards the end of the last century the coal was observed to crop out by the sea, on the site of the present New-

castle. A convict establishment was early formed at the Coal River. A small export to Cape Colony in 1801 realised 6*l.* a ton. The first sale at Newcastle was of forty-four tons to an American vessel, for nails and old iron. Up to 1817 the cliff only was worked, and that by a perpendicular shaft. In 1820 twenty tons a day were raised by twenty-seven men. The Government sold the surplus stock, levying a duty of 2*s.* a ton for home consumption, and 5*s.* when for exportation.

When the fortunate Australian Agricultural Company of British Shareholders got their enormous grant, it was ascertained to contain the largest extent of the coal-field. The monopoly of the Newcastle-coal fields was then transferred to the Company, though now thrown open to the public. At the beginning of 1873 the land taken up in coal leases from Government reached to 34,720 acres. In the last twenty years the export has increased above two thousand per cent. The coal raised in 1878 was valued at 920,936*l.*, and export 708,406*l.*

Coal leases.

Though the neighbourhood of Newcastle, at the mouth of the Hunter, is the principal source of this mineral, profitable workings exist at Berrima, Maitland, Hartley, Patrick's Plains, Clarence river, Lithgow in the vale of Clwydd, and Wollongong of Illawarra.

Other coal-fields.

From Wollongong, forty miles south of Sydney, over 238,500 tons were produced during 1877; while the Newcastle yielded 1,180,000. The total amount raised that year in the colony was 1,575,500 tons, valued at 915,228*l.* In 1878, 1,006,420 tons were exported to the other colonies, to China, India, Valparaiso, Siam, California, &c. The price from 1862 to 1866 averaged 10*s.*; and, subsequently, 7*s.* A strike afterwards sent up the coal rates there rather considerably. In 1878 there were 28 mines of coal and 3 of shale at full work.

Coal raised
and
exported.

Kerosene, at Petrolia Vale, Hartley, to the westward, is an important manufacture. The shale yields seventy-five gallons to the ton; 50 tons a day are distilled. In 1872 the Shale Oil Company produced 8,000 tons, valued at 24,000*l.* Wollongong also furnishes a large quantity of the oil. In 1878, total shale produce, 57,211*l.*

Kerosene.

Coal leases must not extend beyond 320 acres, nor for more than fourteen years. Though the annual rent is but 5*s.* an acre, the lessor has to expend 5*l.* an acre upon

Rent and
area of coal
leases.

NEW SOUTH WALES.

Other mineral leases.

Coal area.

the land during the first three years. Upon the renewal of the lease the rent is to be determined by appraisement, though never less than 50s. an acre. The limit of area in leases of other minerals than coal (gold excepted, also) is eighty acres. In 1877, 30,604 acres were leased.

The coal area of the colony, though officially rated at 10,000,000 acres, may prove to be several times greater. The Government has an Examiner of Coal Mines, and an Inspector of Collieries.

TRADE.**Trade and Manufactures.**

Shipping.

In 1823 the first regular line of schooners began to run between Sydney and Hobart Town. Throughout 1878 there entered into the ports of New South Wales 2,469 vessels, having a tonnage of 1,267,374 tons; the outward was 1,192,130. That colony owned nearly two-thirds of the shipping of Australia. Sydney owners have many colonial steamers. Until very recently, the carrying trade of Queensland and New Zealand was in the hands of New South Wales. There is a growing trade between Sydney and the South Sea Islands, as well as with Honolulu and California. To make Sydney the emporium of southern trade, the colony has now adopted a free trade policy, in opposition to the practice of its neighbours. The geographical position of this safe and commodious port is much in its favour.

Free Trade.

The export and import trade is a large one. In 1831, this came to 15*l.* 18*s.* 4*d.* per head; in 1841, to 25*l.* 4*s.* 2*d.*; in 1851, to 17*l.* 0*s.* 10*d.*; in 1861, to 33*l.* 9*s.* 1*d.*; and in 1871, to 40*l.* 3*s.* 4*d.* In 1878 the two were 40*l.* 18*s.* 2*d.*

Imports.

The imports for 1878 were 14,768,873*l.*, and the exports 12,965,879*l.* The following table showed the trade of the colony with some other states:—

Trade with countries.

	Country	Imports from	Exports to
Great Britain	.	6,658,628	5,516,437
Victoria	.	2,897,503	3,694,434
Queensland	.	1,813,762	1,221,621
New Zealand	.	245,907	588,419
South Australia	.	889,691	1,053,642
Other colonies	.	1,099,528	996,048
Foreign States	.	1,351,634	431,531

**NEW SOUTH
WALES.**

Imports.

In 1876 the imports from British colonies were 6,957,463*l.*; and from Great Britain 5,763,533*l.* From Victoria they were 2,386,777*l.*; South Australia, 1,165,706*l.*; Queensland, 1,989,589*l.* Of the exports, 6,637,018*l.* went to the British colonies, and 5,918,187*l.* to Great Britain; to Victoria, 4,043,666*l.*; to South Australia, 670,138*l.*; to Queensland, 1,121,820*l.*

Among the imports for 1878 were: Apparel, 643,287*l.*; beer, 202,211*l.*; candles, 72,624*l.*; coffee, 27,462*l.*; music, 117,430*l.*; cutlery, 39,080*l.*; drugs, 122,259*l.*; earthenware, 74,270*l.*; flour, 411,007*l.*; furniture, 144,303*l.*; grain of all kinds, 251,886*l.*; stationery, 166,155*l.*; hardware, 462,198*l.*; green vegetables, 17,987*l.*; matches, 48,760*l.*; hops, 36,012*l.*; iron, 652,607*l.*; jewellery, 120,658*l.*; boots and shoes, 296,767*l.*; drapery, 2,717,028*l.*; machinery, 191,352*l.*; sewing machines, 38,354*l.*; watches, 56,244*l.*; oilmen's stores, not oil, 10,410*l.*; opium for the Chinese, 46,691*l.*; potatoes, 127,274*l.*; saddlery, 53,289*l.*; rice, 90,036*l.*; spirits, 421,398*l.*; books, 180,155*l.*; sugar, 704,691*l.*; tea, 362,883*l.*; tobacco, 226,234*l.*; toys, &c. 128,763*l.*; fruits, 134,870*l.*; wines, 112,084*l.*; tin ore and ingots, 217,960*l.*

Much of the import of the Colony is exported in the way of colonial trade. The wool from Queensland amounted to 272,499*l.*, and was forwarded to Loudon via Sydney. In a similar manner an import of copper in the year 1877, from Queensland and South Australia, came to 114,389*l.* The import of gold from other colonies was 1,098,592*l.* The total imports for 1877 were 13,672,776*l.*

In the list of ordinary exports, produced in the colony in 1878, the following are the leading items: bark, 9,421*l.*; butter and cheese, 38,694*l.*; coal, 708,406*l.*; copper, 405,084*l.*; gold, 1,701,283*l.*; maize, 142,968*l.*; leather, 95,086*l.*; fruits, 87,788*l.*; meat, 63,125*l.*; skins, 90,041*l.*; sugar, 151,931*l.*; tallow, 98,018*l.*; timber, 39,836*l.*; wool, 5,960,206*l.*; wine, 28,146*l.*; tin, 430,671*l.*; spirits, 95,895*l.* As the flocks have so increased, and the refrigerating process has proved a success, the future meat export will become very large.

The overland trade with Victoria and South Australia is considerable. In 1877 the overland imports

Seaward exports.

Overland trade.

NEW SOUTH WALES.

Imports
and
exports
per head.

amounted to 1,744,920*l.*, and the exports to 2,355,718*l.* In 1871, the live stock alone realised 914,670*l.*, and wool, 2,443,380*l.* Ten years before, the overland imports were but 200,000*l.*, and the exports 900,000*l.*

The import trade through 1878 averaged 21*l.* 15*s.* 8*d.* per head, or more than double that of Great Britain. The export was 19*l.* 2*s.* 6*d.*, or nearly three times the amount. The 1872 exports were 10,447,049*l.*

The tariff which came into operation, Act 1874, dispenses with *ad valorem* duties. The duty on spirits and wines has been raised.

		<i>s. d.</i>
Bags and sacks	per dozen	1 0
Beer, ale, porter, spruce, or other beers, in wood or jar	per gallon	0 6
Ditto ditto, in bottle	"	0 9
Bottled fruits (quarts)	per dozen	2 0
Ditto (pints and smaller packages)	"	1 0
Candles	per lb.	0 1
Cement	per barrel	2 0
Cheese, dried fruits, pepper, spices, bacon, and hams	per lb.	0 2
Cigars	"	5 0
Coffee, chicory, cocoa, and chocolate	"	0 3
Comfits, confectionery, succades	"	0 1½
Cordage and rope	per ton	40 0
Doors, sashes, and shutters	each	1 0
Dried, preserved, and salt fish	per lb.	0 1
Galvanised iron, in bars, bundles, or sheets, or corrugated	per ton	40 0
Galvanised manufactures	per cwt.	3 0
Gunny bags	per doz.	0 6
Hops	per lb.	0 3
Iron wire	per ton	20 0
Malt	per bushel	0 6
Methylated spirits	per gallon	2 0
Nails	per ton	40 0
Oils of all kinds (except animal, sperm, black, and cocoanuts)	per gallon	0 6
Opium, or preparation	per lb.	20 0
Paints	per ton	40 0
Paper, writing and fancy	per lb.	0 1
Ditto, brown and wrapping	per cwt.	3 4
Powder, blasting	per lb.	0 1
Ditto, sporting	"	0 3
Rice	per ton	60 0

		a.	d.	NEW SOUTH WALES.
Sego, ginger, jams, jellies, nuts, preserves, biscuits, blue, mus-				
tard, starch, and corn flour .	per lb.	0	1	
Salt and saltpetre .	per ton	20	0	
Sarsparilla, containing not more than 25 per cent. of proof spirit	liquid gallon	4	0	
Sashes and shutters, doors .	each	1	0	
Shot .	per cwt.	5	0	
Sauces and pickles, quarts .	per dozen	1	0	
Snuff . . .	per lb.	2	0	
Soda crystals . . .	per ton	20	0	
Spirits, and excise . . .	per gallon	12	0	
Ditto, methylated . . .	"	2	0	
Sugar, raw . . .	per cwt.	5	0	
Ditto, refined . . .	"	6	8	
Ditto, molasses and treacle . . .	"	3	4	
Tea . . .	per lb.	0	3	
Timber, dressed, per 100 feet superficial . . .		2	0	
Ditto, rough and undressed, ditto		1	0	
Tobacco, manufactured . . .	per lb.	2	0	
Ditto, unmanufactured . . .	"	1	0	
Ditto, ditto, for sheepwash . . .	"	0	3	
Turpentine . . .	per gallon	1	0	
Varnish . . .	"	2	0	
Vinegar . . .	"	0	6	
Wines, sparkling . . .	"	10	0	
Ditto, other kinds . . .	"	5	0	
Woolpacks . . .	each	0	3	

The Bank facilities for the expansion of trade have furthered the progress of the Colony. On December 31, 1878, the assets of the ten Sydney banks were £23,082,957. The last declared dividends were at the satisfactory rate of 8, 10, 12½, 16, and even in one case, 25 per cent. The bank deposits in January, 1879, amounted to £16,722,452, and those of the Savings Bank deposits reached to £1,505,575. in addition to Post Office deposits. The eleven banks' assets, June 30, 1879, were £23,298,589., to liabilities £18,114,675.

A wonderful change has appeared since the first Sydney bank arose in 1817. The Government had full control of trade affairs of old. In 1812 it was declared that a difference of 20 per cent. must be allowed between *sterling* and *currency*. In 1824 returns by Government were ordered to be made in dollars. Promissory notes of tradesmen for very small sums formed for many years the leading currency of the Colony.

NEW SOUTH WALES.**Post-office.**

The Post-office is admirably administered. At the commencement of 1879, there were 847 offices connected with a postal route of 20,176 miles. A letter is carried for a penny within ten miles of Sydney, and for two-pence beyond that limit in the Colony. The postage to all other Australian colonies is threepence. The letters in 1879 were 18,159,900, and the newspapers 9,469,000. Money-orders are as at home. The English mail, via California, starts from Sydney. The letters from New Zealand go that way also, by Honolulu.

Telegraph.

The Telegraph wires in 1879 reached 11,760 miles, costing 413,258*l.* The messages were 1,132,287. The charge for ten words is but one shilling.

Railways.

The Railway system has received much attention from the Sydney Government. The 688 miles of extent gave in 1878 a profit of 366,000*l.*

The railway through to Riverina will tap the traffic before going to Victoria. The line from Sydney to Melbourne will soon be finished. That to the south opens up land by rich gold fields. New England and the Hunter coal district have iron roads. One, from Deniliquin to Moama, is a private railroad. The cost for 509 was 8,638,362*l.* A first-class ticket costs about 3½*d.* a mile; and a second 2½*d.*

The working expenses in 1878 were 536,988*l.*, and the total earnings were 902,989*l.*

With cotton-growing Fiji as a British colony, the trade of Sydney port must be very greatly extended, especially as the Mail Line to San Francisco is by way of Fiji.

Manufactures progressing.

MANUFACTURES were long unheeded in the Colony. Not satisfied with the export of raw produce, and anxious to train their young folks to home industries, the colonists are now actively proceeding with manufactures of various kinds.

In 1878 there were 2,557 works, employing 24,788 persons: 169 with agriculture; 318 with pastoral products; 247 food; 774 building and plastic; 166 metal. There were 50 sugar mills; 29 boiling down; 31 soap and candle works; distilleries, &c.

Woollen mills are in active operation. In 1878 cloth to the extent of 330,037 yards was produced. Shipbuilding is being carried on all along the coast. Iron foundry work is wonderfully progressing. Steam en-

gines and machines of almost all descriptions are being made in Sydney. They can now turn and bore up to 14 ft., and plane up to 25 ft. They turn out brass castings of 10 tons, and iron ones of 30. Smelting works are driving a great trade. There are also large galvanised-iron factories. Paper half-stuff is made near Liverpool from the native lily, rush, native flax, cat-tail grass, water grass, arrowroot plant, sida or native hemp, banana, native cotton, etc.

With the possession of so unlimited an extent of coal, and that easy of approach, a glorious manufacturing future may be calculated upon for the Colony, affording employment to large numbers of mechanics, getting good wages in a very cheap country.

NEW SOUTH WALES.

Land Laws and Immigration.

In the olden times, as the prisoners served their time, land was granted to them in plots of 30 or 50 acres. For such a grant, a quit rent of sixpence an acre was demanded. In 1810, when the gifts of land became larger, being made to officers and other free persons, the quit rent was 2s. for every 100 acres. In 1823, it was 2d. an acre; and in 1824, five per cent. upon the annual value was demanded. The difficulty of collecting the quit rent was ended by the Government yielding up the claim altogether.

Free grants were made also to those who would undertake to employ a certain number of convicts, and who brought a certain amount of capital into the Colony. Mr. Blaxford was told by the Secretary of State that for taking out £8,000 he would receive 8,000 acres, and the use of a considerable extent of convict labour. Grants were usually limited to 2,500 acres. In 1825, the Australian Agricultural Company of English capitalists secured a grant of one million of acres, near Port Stephen, Peel river, and the Liverpool plains.

In 1831 the system of grants was discontinued. Land was to be sold at 5s. an acre. The upset price was raised to 12s. in 1838, and to 20s. in 1842. The auction system began in 1838. By the Act of 1842, one-half the proceeds of land sales was to be devoted to immigration, and the other moiety to public works. In 1861 a great

Coal advantages for manufacturers.

LAND LAWS.

Grants and quit rents.

Grants to capitalists.

A million acres given to a Company.

Price of land.

NEW SOUTH WALES.**Land sales.**

change took place, and land, thenceforth, could be obtained on a system of deferred payments.

Sales have greatly varied in amount. In 1832, 20,860 acres realised £12,509. In 1838, when Melbourne land was first put up, 316,160 acres were sold; but in 1843, only 5,227 acres. In 1864, 164,890 were disposed of; in 1871, 88,637; in 1878, 1,210,692.

Land selectors.

In 1862, 4,493 selectors took up 357,280 acres on a conditional purchase system; and in 1878, 12,602 selected 1,588,247. In six years, 79,719 persons secured thus easily 10,000,000 acres. In 1873 the freehold occupiers were 24,227. The conditional purchases were 749,586 acres. In 1876, 1,984,212 acres were selected.

Sold and unsold land.

At the end of 1878 it was ascertained that, within the limits of the old 20 counties, 7,043,807 acres had been disposed of, while 17,230,488 were still unalienated. In 101 counties outside of that settled district, the unsold were 125,362,735 to 8,000,000 of the alienated. At the end of 1878, 16,122,426 acres had been sold.

Land law of 1861.

According to the liberal land law of 1861, though town and suburban lots were to be sold by public auction, country sections were to be had on the plan of conditional sale, by paying down one-fourth cash, and having time for the balance at an interest of 5 per cent.

The Act says:—‘Any person may, upon any land office day, tender to the land agent for the district, a written application for the conditional purchase of any such lands, not less than 40 acres nor more than 320, at the price of 20s. per acre, and may pay to such land agent a deposit of 25 per centum of the purchase money thereof.’

Lots are drawn in the event of more than one tendering for the same section at the same time. The land must be at a specified distance from a town or diggings.

In five years’ time, upon payment of the balance, without interest, the person obtains a Crown grant should he or his representative have resided continuously on the farm, with 10s. an acre for improvements. Should gold be found before the full purchase have been effected, the agreement is annulled, though compensation is awarded.

Mineral land.

Mineral land, if not auriferous, can be similarly taken up for five years, but at 2*l.* an acre. The grant is not given unless at least 2*l.* an acre should have been expended in improvements.

By the 'Crown Lands Occupation Act,' the squatting country is divided into first class settled districts, second class settled districts, and unsettled districts; leases are granted according to the character of land.

Runs in the first class districts can only be rented on annual leases, as the land may be required for agricultural settlement, or conditional sales. The annual rental is £2 per square mile, or three farthings an acre. The holders of land in fee simple may obtain at the tithe rent, leases of adjoining land to the extent of three times the amount of their own purchased area. Leases are submitted to public competition.

On the second class settled land, and on the unsettled, runs cannot exceed 25 square miles, unless of poor quality, when the area may be up to 100 square miles. The highest tenderer obtains the lease for five years. The rent is determined by appraisement in open court at a time previously proclaimed.

After auction, the purchaser of the lease pays down one-fourth of the premium, if any, leaving the balance for three months. The rent is paid a year in advance.

The lease is forfeited if within six months the run be not occupied by 200 cattle, or 1000 sheep. If an *unwatered* run, eighteen months are allowed, as artificial means of watering have to be adopted. In the latter case, the lease may be extended to ten years.

The land laws of New South Wales are favourable to farmers as well as squatters. The right of selecting agricultural land in the midst of runs has excited some ill-feeling between the grower and the grazier; but the latter must be content, as a pioneer, to yield the land, when required, for the higher purposes of settlement and agriculture. Squatters, in self-protection, have lately been buying large tracts of their runs.

If not so liberal as the land regulations of Queensland, the system of New South Wales may be as profitable to some immigrants, as the latter colony is necessarily in a more advanced condition of civilisation than the northern and younger one.

IMMIGRATION has, apparently, excited less attention in the old colony than in some of the new ones. It may, however, be observed that while Queensland and Victoria were provinces of New South Wales, con-

NEW SOUTH WALES.

Pastoral land.

Leases and rents of runs.

Farms selected on runs.

IMMIGRATION.

NEW SOUTH WALES.

siderable immigration took place at Melbourne and Brisbane.

Governor Phillip, as early as 1790, urged the British Ministry to send out emigrants to New South Wales. In 1792, arrangements were made for the reception of a band of Quakers, who were expected as free colonists, but who were prevented from taking their voyage.

Governor King interested himself upon the question, and got out a party of Scotch mechanics. It was to the honour of these men, that the first church built by voluntary effort in Australia was raised by them. Anxious for religious services for their families, they erected a substantial edifice in 1806, on the banks of the Hawkesbury. Drink in early days troubled the Scots and other immigrants.

The publication of Mr. Wentworth's work on the colony, in 1823, drew a number of enterprising colonists to Sydney. It was not until 1821 that unrestricted emigration to New South Wales was permitted by Government.

When by the cessation of transportation, in 1840, the labour market was affected, the colonial authorities commenced the system of bounty emigrants. In the bad year of 1843 only eleven immigrants arrived. Although, by the gold discovery in 1851, a large rush of people set in toward Melbourne, the older harbour of Port Jackson has not been neglected. From 1862 to 1866, while 14,000 immigrants came at the public expense, as many arrived paying their own passage. Complaint was made that three times as many came at the public charge from Ireland, as from England and Scotland altogether.

Subsequently, the incoming languished. In 1872, only 326 bounty immigrants and 516 free ones reached the colony. An attempt is now being made to attract British settlers thither. For the sake of the individuals themselves, and for the good of the grand old colony, it is to be hoped that the effort will be successful. One thing is certain, that, if wages be a little lower than in some other colonies, the immigrants in New South Wales will find in cheaper food and clothing more than an equivalent; while they will enjoy more advantages of civilisation than can be found in most other settlements.

Scotch mechanics in 1806.

Freedom to emigrants allowed in 1821.

Bounty emigrants, 1840.

Decline of immigration.

Advantages of the colony.

According to the newly-sanctioned Immigration Regulations, no one country is to be favoured beyond another, though the shipment must not contain more than one-tenth Germans.

A deposit of 2*l.* is required from all between 12 and 50 years, and 1*l.* from 3 to 12. The reduction of the emigration vote practically limits the supply to those nominated by persons in the Colony. All who pay their own passage out are welcomed.

Colonial residents may introduce persons to New South Wales, subject to the approval of the Agent-General in London. The one-third deposit so made in Sydney is returned when the parties written for fail to embark.

Unmarried women must not be over 30 years, nor form more than one-fifth of the whole emigrating. They are at liberty to remain at free quarters in Sydney for three weeks after arrival.

Further particulars may be learned at the Immigration Offices, 7, Westminster Chambers, Victoria Street, Westminster.

Mr. C. Robinson's pamphlet, once issued by the Sydney Government for intending emigrants, thus closes its appeal for labour and capital:—

‘We have land enough and to spare for many generations; it will yield nearly everything that has any value in the markets of the world. Healthy labour is all we ask for; capital, too, where it is available, and that will smooth the lot of labour,—but healthy labour is the one great requisite, and whoever can offer us that is welcome. To all who are struggling to get on at home, and yet can hardly keep their heads above water, and in their old age must depend upon their children or the parish, we say, gather together what little substance you have, bid farewell to your native land, come out to this Land of Plenty; and under its bright sky, let that same labour of yours, which at home cannot save you from the fear of being a burden to your country, win for you a fair day’s wage for a fair day’s work; and, as an Englishman still, you need love your fatherland none the less, but help to preserve her Empire and augment her greatness through all future ages.’

Mr. Parkes, the Premier of the Colony, in his speech

NEW SOUTH WALES.

New immigration regulations.

Immigration offices of N. S. W.

Appeal to intending emigrants.

NEW SOUTH WALES.

A colonial statesman's opinion.

on February 15, 1873, observed :—‘The people of New South Wales have no cause to envy the progress of any one of the Colonies. We feel conscious that we have within our own bounds all the elements of national greatness ; and while we wish them God-speed in their respective courses of progress, we feel at liberty to tell them that we shall endeavour yet to assert our position as leader of them all. We feel that our resources justify the hopes we entertain ; that the resources of our intellect, our settled population, our accumulated wealth, and our public spirit, will enable us to accomplish all to which we aspire.’

Wages. The official announcement of wages in the Colony was that in December, 1879. It is thus given :—

‘Statement authorised by the Government of New South Wales of the current rate of wages of labouring people in the Colony of New South Wales, and the cost of their house-rent, food, and clothing, to enable officers duly appointed by the Governor and Executive Council to furnish necessary information to persons entering into engagements for service under the Act of the New South Wales Parliament, 39 Vic. No. 29.

‘Fee chargeable by the officer for certification of agreement in case of each person, 5s.

‘SYDNEY, NEW SOUTH WALES, DECEMBER 1879.

‘The following are the current prices paid for labour in some of the principal trades of the Colony, which of course vary somewhat in different districts :—

	s. d.	s. d.	
Waggon builders . . .	1 0	to 1	3 per hour
Carriage	0 10	"	1 6 "
Carriage painters	0 10	"	1 3 "
Sawyers, in mill	0 9	"	1 3 "
Compositors	1 0	"	1 1 per 1,000
Stonemasons	10 0	"	11 0 per day
Stonemasons' labourers	7 0	"	8 0 "
Plasterers	11 0	"	12 0 "
Plasterers' labourers	7 0	"	9 0 "
Bricklayers	10 0	"	12 0 "
Bricklayers' labourers	7 0	"	9 0 "
Carpenters	9 0	"	11 0 "
Joiners	10 0	"	11 0 "
Painters	9 0	"	10 0 "
Shipwrights	9 0	"	12 0 "

	s.	d.	s.	d.	
Labourers	7	0	to	9	0 per day
Saddlers	45	0	„	55	0 per week
Tailors (paid by the piece)					
can average about	50	0	„	70	0
Shoemakers do. do.	35	0	„	50	0
Jobbing	50	0	„	60	0
Shipsmiths	1	0	„	1	6 per hour
Bookwork			1	0	per 1,000
Dressers	0	8½	„	0	11 per hour
Furnace men	0	10	„	1	1
Iron turners	1	0½	to	1	5½
Engine fitters	0	11	„	1	4
Coppersmiths	1	1	„	1	3
General fitters	1	0	„	1	2
Blacksmiths	1	1	„	1	4
strikers	0	8	„	0	10
Iron moulders	1	0	„	1	3
Boiler makers	1	0	„	1	4
Pattern makers	1	0	„	1	3
Boiler makers' assistants	0	8	„	0	9
General labourers in iron works	0	7½	„	0	10
Engine drivers	0	9½	„	0	10
Brass moulders	1	2	„	1	3
Brass finishers	0	11	„	1	3
Machine men, in fitting shop	0	10	„	1	2
Coal miners	10	0	„	15	0 per day
Saw-mill hands	0	9	„	1	0 per hour

'The above trades connected with the iron and engineering departments, work eight hours a day, with one or two breaks.

'The following quotations are exclusive of rations or board in town or country:—

	£	s.	£	s.
Married couples for stations	60	0	to	75
	0	0	„	0 per annum
Farm labourers	30	0	„	45
Bullock drivers	40	0	„	52
Horse-team drivers	40	0	„	65
Boundary riders	40	0	„	52
Stockmen	40	0	„	75
Shepherds	35	0	„	40
Road makers	52	0	„	65
Grooms	40	0	„	60
Gardeners (country)	40	0	„	52
(in town)	52	0	„	65
Blacksmiths (country)	75	0	„	80
Bakers	1	10	„	3
Butchers	1	10	„	3
Cooks (private houses)	30	0	„	65
(hotels)	45	0	„	75
	0	0	„	0 per week
	0	0	„	0 per annum

NEW SOUTH WALES.

	£ s.	£ s.	
Laundresses	32 0	to 45 0	per annum
House and parlour maids	26 0	" 35 0	"
General female servants	26 0	" 45 0	"
Nursemaids	26 0	" 35 0	"
Grooms and coachmen (in town)	45 0	" 65 0	"
Useful boys on stations	16 0	" 30 0	"

Current Rate of Wages, without Board or Lodging:—

	s. d.	s. d.	
Wheelwrights (country)		70 0	per week
Railway labourers		7. 0	per day
Gangers		8 6	"
Brickmakers	22. 6	" 25 0	per 1,000
Potters		50 0	per week
Pipemakers		50 0	"
Tinsmiths	42 0	" 63 0	"
Galvanized-iron workers	9 0	" 10 0	per day

(The two trades last mentioned work ten hours to the day.)

Lumpers and Wharf Labourers—

	Day work for handling	s. d.	s. d.	
general cargo		1 0	per hour	
Do. coal		1 3	"	
Night work		1 6	"	
Plumbers	8 0	to 10 0	"	
Gas-fitters	8 0	" 11 0	"	

(These two trades work eight hours to the day.)

Coopers	8 0	to 10 0	per day
-------------------	-----	---------	---------

Do. on piece as follows:—

Wine casks		22 6	per tun
Oil casks		20 0	"
Tierces	3 (old)	3 6	(new) each
Hogsheads		6 0	each
Ten-gallon kegs		2 9	"
Five- " " "	2 0	to 2 3	"
Two- " " "		1 6	"
Tallow casks	13 6	to 15 0	per tun'

House rent in Sydney, 4 rooms, 10s. to 12s. per week.
Board and lodging from 14s.

Hints to Emigrants upon New South Wales.

A few general remarks are required to supplement the information about the Colony.

Some persons may ask if they ought to emigrate to Australia.

A general invitation has never been given by sturdy colonists to those of the old country. They have not sought for the halt, lame, and blind of Europe. Those who are unprepared to sacrifice present ease for future good, who shrink from enduring any difficulties, or who have no respect for honest toil, had better remain where they are.

NEW SOUTH WALES.

All are not invited.

There are, too, certain employments, belonging to the highest developments of luxurious refinement, which would have a very limited operation abroad. At the same time, there is room for more than the labourer, the mechanic, and the capitalist. No community could have acquired such wealth as may be witnessed in Sydney, without an expansion of desires and a demand for something beyond mere necessities.

Emigrants should not be too sanguine. They go with a belief that they will do better, or they will not go at all. But they need not imagine success without effort, nor wealth without labour. Cares are not confined to one hemisphere, neither are disappointments the doom of one state alone. Without calculating upon reverses, there may be the preparation for them; without looking for trials, the possibility of them may be contemplated with calmness, and met with resolution. No prosperous settler has been without his dark days, though the triumph over obstacles has been his dearest reward.

No success without toil and care.

Grave misapprehensions still exist respecting the Colonies. It is too commonly forgotten that they are in various stages of progression. They may be all equally prosperous, and yet be nearly as different from each other as the backwoods of America from the salons of New York.

Differences in colonies.

They who seek a wild bush life, far away from the habits of civilised society, had better not enter the gates of Port Jackson. They would there be confronted by civilisation in its wonted aspects, seldom to desert them in their bush wanderings.

It is entirely a mistake to imagine that the cry of 'quite colonial' will serve as an apology for some neglect of polished manners. The roughness once so common in colonial life is rapidly yielding to refinement of manners. A young man finds it as necessary to regard deportment and character in Australia as in Europe.

Good manners respected

NEW SOUTH WALES.

Civilised agencies abound.

Classes wanted.

Where to enquire.

Female immigrants.

The farmer has now a church and school near his family, and the squatter may have the refinements of society. The petty townships of the interior are supplied with current literature; while Sydney, with museums, public libraries, parks, theatres, and places of worship for all denominations, will bear comparison with most towns in England.

The immigrant will discover that he has but come to another Britain over the *Line*, and that trades and professions similar to those at home are in full exercise there. Such conditions of a mature settlement are not to be expected in less advanced colonies.

New South Wales, consequently, is prepared to receive all classes. The merchant needs a clerk; the builder a workman; the shopkeeper an assistant; the congregation a pastor.

The larger towns ask for skilled artisans, and the inland townships are open for ordinary tradesmen. The agricultural acres are far from being filled up, and all the wild wastes are not yet occupied with *runs*.

There is an opening there for stout limbs and brave hearts, even though the young man land with but a pound in his pocket.

Enquirers about emigration need only address themselves to the Agent-General Sir Charles Cowper, at 3, Westminster Chambers, Victoria Street, Westminster, and they will be further satisfied. They will learn how to reach the port, upon the payment of one-third the passage money, if they have but hands for labour. And, on arrival there, the Government will afford facilities to procure them employment.

An old colony has some social advantages.

Although the sexes are pretty well matched in New South Wales, there are perhaps more marriages there in proportion to population than in colonies with a wider difference in the census returns of the sexes, but where there is less disposition to settle down to domestic life.

This is evidenced singularly in mining life. In some other new countries, where the digger has a greater range for his employment, where the comforts of civilisation are more difficult to procure, and where the habits of society are less favourable to quiet home life, the

prospects of marriage are not equal to those existing in this colony.

In New South Wales, on the contrary, the gold mines are more concentrated, are situated in civilised parts of the country, and are so abundantly supplied with cheap provisions and creature comforts, that a digger has stronger inducements to marry and raise a homestead there.

This constant changing of single women into the ranks of the married makes room for new hands at service, in the house, or shop. It may appear paradoxical to say, though it is none the less true, that there is often a readier opening for young female immigrants in the old settled Colony, than in places where, from their scarcity, women may be thought to be more required.

A few words, however, should be directed to young men occupying a comfortable position at home, but for whom the Colony is not without interest.

Many of these are leading a wasted life for want of something useful and profitable to engage their time. Emigration to the Colonies would substitute healthful and honourable action for the miserable lot of dependence upon friends. Here, too, the more respectable avenues to wealth, or even bread-earning, are choked up with ever-rushing competitors.

The parent may naturally pause before starting a young man with capital abroad, when there has been no previous opportunity to exhibit an adaptation for business, or when habits of economy and industry have not been conspicuous under the father's roof. Some persons would have spared themselves mortification and loss, had they given a little less cash at the first, and reserved more for the time when their sons had proved their armour.

No such caution is needed about those whose steadier habits, and appreciated application to business in the old country, indicate their suitability to be intrusted with capital in the new.

Commerce there has openings for commercial young men, who will first enter a house as an employé before venturing their husbanded resources. Manufactures in the larger towns present other invitations. A land of coal, so well situated for trade, has unquestionable attractions for those skilled in certain manufactures, and provided with some capital.

NEW SOUTH WALES.

More comforts in mining.

Marriages in the Colony.

Advice to young men emigrating.

Opening in trade and manufactures.

NEW SOUTH WALES.**Hints to intending farmers.****Land for years at small interest.****Colonial farming.****Sugar-growing advantages.**

Farming is another opening. The young man who contemplates this course, and has some practical acquaintance with its details, while moderately furnished with means, should, if possible, be provided beforehand with a wife, and one resolved to share with him in the cares and privations usually attendant upon a start in life so far from friends.

The land laws are so liberal, and so convenient, that ground may be readily got hold of, and even secured upon circumstances that will not press hard upon his capital.

He can purchase a good block of land on payment of five shillings an acre down. The balance can remain for years and years, at a moderate rate of interest, and yet the holder be never in any fear of losing his possessions, unless in the failure of paying the trifling interest. He has all the security of a freehold, without the heavy outlay at the first, when demands are so urgent for the purchase of implements, the fencing of land, and the cropping of his little field.

Whenever prepared, by successful harvests, to spare the cash, he is at liberty to pay the balance for his acreage, and secure his title-deeds from the Government.

New South Wales has been slighted somewhat, because wheat growing there has been less successful than in some other colonies. This is no more rational than to find fault with Kent for not growing more oats, and Perthshire for not producing hops.

In that Colony, if wheat be less, maize is so largely produced as to provide all the other colonies with that useful grain. The farmer must adopt that system of culture best fitted to his own locality.

The style called *colonial farming* is more common in New South Wales than elsewhere, owing to local circumstances requiring at least a qualification of the English modes.

Sugar cultivation has commenced under favourable prospects in the hot river lands near the sea. While a moderate capital will suffice for the growth of the cane, a larger investment is required for the manufacture of sugar. The pursuit altogether is one particularly recommended to persons with some agricultural ideas, even if unacquainted with cane culture. Local experience can be acquired with little difficulty.

The *Pastoral* occupation courts attention. Though a man fail to secure a run on such favourable terms in good localities as he might in the remoter parts of New South Wales, he has to weigh the advantages of proximity to a market, as an offset to higher rates, or less secure tenure.

There are, however, tracts of land in the more remote west to be obtained on most moderate terms, and for fixed periods. True it is, there are the drawbacks of occasional drought, which may leave the run well-nigh waterless, and the grasses somewhat thinned. Recently many stations were formed in the dry Darling country.

But the thoughtful man prepares for such a contingency. He constructs reservoirs in gullies and shaded nooks, which may get filled in occasional showers. He is ready to reduce his stock should the dark day come. He has also prepared for temporary reverses by a reserve at the bank.

Thus forewarned and forearmed, he calmly waits the return of better times. Even in those supposed desert retreats the grasses retain their vitality, and no danger is apprehended so long as surface water remains. But it is well known that a few years of successive good seasons are sufficient to place a man in comparative affluence, especially at the wool rates that have lately prevailed. The mischief and trouble may be said to arise from wild expenditure, and the purchase of heavy numbers upon the chances of an uncertain future. They who buy judiciously, husband resources, and keep something in reserve, need fear nothing in embarking upon such a squatting speculation. Stations already formed are to be purchased, though great caution and some colonial experience are required before closing a bargain.

Mining, perilous as its ventures are commonly reported to be, is not without attractions to the young man with a few hundreds at command.

It would be absurd indeed for him to become a dabbler in mining shares, an idle schemer, or an improvident dreamer. It would be folly, also, to become a partner in an undertaking, however grandly its prospects have been displayed before him, unless he have some practical knowledge of mining, and reasonable ground for faith in the promoters of the enterprise.

NEW SOUTH WALES.
Runs vary with locality.

Back runs and how to use them.

Mining investments.

NEW SOUTH WALES.

**Openings
for the
middle-
aged.**

But, by working awhile on a gold field, and reserving his means, he may eventually see an occasion for investment with approximate safety, and be able to direct and control, to some extent at least, the company with which he connects himself.

To men of more advanced age and real experience the Colony cannot fail to be of interest.

The openings in the various interests of New South Wales are ready at hand not more to young men than to those of maturer years. If the former have more dash and energy for difficult and hazardous pursuits, the latter have a tempered courage, a more sustained vigour, and a calculating discretion, admirably fitting them for engagements when competition has to be encountered, and enlarged experience of life is demanded.

To such persons, especially, the rising manufactures present an opportunity for investment.

It is an idle remark that where money is made so easily capital has no need to go. So far from this being the fact, capital seems even more in demand according to the progressiveness of the community.

The man with a family emigrating to New South Wales will certainly take them to a cheap and pleasant home.

The father may not have occasion to labour for himself, but be going for the sake of his children. Some of these may not be robust enough for the blustering blasts of an English winter. The girls may be contemplating a future of pinched respectability, without much hope for remunerative employment should necessity call for their toil. The lads may feel elbowed out by the crowd at home, or be panting for new scenes in which to labour.

As land in a colony may be reasonably supposed to rise in value with the increase of population and wealth, a prudent man will purchase a few acres for an investment. If a parent so invest, his children, in after years, may derive a great benefit from the first outlay.

To all those various classes of emigrants, New South Wales, along with other Australian Colonies, submits its claims and prospects.

**Families
to the
colonies.**

VICTORIA.

Discovery and History.

Victoria was discovered by Captain Cook, April 18, 1770, before New South Wales proper was seen, as Point Hicks, the first land observed, is a little westward of Cape Howe.

As Van Diemen's Land was thought part of the continent, vessels to Sydney went to the south of that island; thus it was that Port Phillip remained so long unknown. A young sailor, afterwards known as Captain Flinders, went with Dr. Bass on a boat voyage of discovery in 1798. In this craft, eight feet long, they entered Western Port.

In a larger vessel they passed through Bass's Strait, and opened another route to Sydney. Lieutenant Grant took this course in the 'Lady Nelson,' and discovered Portland Bay and Cape Otway. On February 15, 1802, Lieutenant John Murray, having been sent by Governor King, in the 'Lady Nelson,' to survey the southern coast, discovered the bay of Port Phillip, which he called King Bay; but which, at that Governor's request, was named after the first ruler of Sydney, Captain Phillip.

A few weeks afterwards, Captain Bandin, the French explorer, entered the bay. He it was who subsequently appropriated to himself the honour of discovering the southern coast of the two colonies—South Australia and Victoria—and named it Napoleon Land.

Flinders visited Port Phillip on April 26. It was in consequence of the reports of Messrs. Murray and Flinders that the British Government sent out a party of convicts, under Captain Collins, in 1803, to colonise the shores of that bay, with a view to prevent the French making a settlement there.

Opinions were turned against the South after Collins deserted it in the beginning of 1804. But the islands

VICTORIA.
Cook's discovery.

Western Port, 1798.

Port Phillip, Aug. 1802.

French claim of discovery.

Settlement 1803.

VICTORIA.

Sealers in Bass's strait.

Hume and Hovell, 1824.

They cross the country to the sea.

Major Mitchell, 1835, discovers the western plains.

Mt. Macedon and Mt. Alexander.

Land named Australia Felix.

Gipps Land. 1840.

in Bass's Strait became partially inhabited by runaway seamen and sealers, who occasionally explored the shore of Port Phillip country.

In 1824, however, Mr. Hamilton Hume and Captain Hovell resolved upon a run down to the southern coast from Sydney, although Mr. Surveyor Oxley, in 1817, had pronounced the region below the Lachlan river to be a perfect desert.

The two gentlemen crossed the Murray, which they called the Hume, rounded the Alpine spurs, passed Mount Macedon, and reached the sea. But while Hume contended it was Port Phillip they saw, his companion was positive that the *Geelong* of the natives was on Western Port. The erroneous opinions of the latter prevailing with the Sydney authorities, a penal settlement was formed at Western Port in 1826.

In 1835, Major Surveyor-General Mitchell undertook an exploring journey southward from Sydney.

Crossing the Murray at a lower point than the other two travellers had done, he discovered the Loddon and the Wimmera rivers on his way to the noble Grampian hills. Pursuing a south-western course, he gained the Glenelg. Turning then eastward, the point of a shoe in the sands led him to the whaling establishment of the Henty family. Both parties were equally surprised at the meeting near Portland Bay.

Leaving the coast, the Surveyor-General gained the lovely country of the Dividing Range. Seeing the Port Phillip Bay from the summit of a mountain, he called the hill Macedon; and another fine pile of rocks to the North, Mount Alexander, so well known in 1851 from the gold discoveries around it. The return route to the Murray was by way of the Goulburn.

It is not to be wondered at that Major Mitchell, who had never beheld so much beautiful scenery and fertile soil in his life, should have given the land the appellation of *AUSTRALIA FELIX*; and rightly and prophetically did he exclaim, 'We had at length discovered a country ready for the immediate reception of civilised man, and fit to become one of the great nations of the earth!'

Gipps Land. Gipps Land was made known by Count Strzelecki and Mr. Angus McMillan in 1840.

The HISTORY of the colony for thirty years was one of attempted settlement and contemptuous neglect.

On October 2, 1803, the first colonists arrived in Port Phillip, and camped some eight miles from the heads on a sterile peninsula of sandy limestone.

Captain Collins, who was to be Lieutenant-Governor of the place, under the authority of the Sydney rulers, came with the transport 'Ocean,' with the protection of H.M.S. 'Calcutta.' It was a most ill-sorted party for a settlement, there being 307 male prisoners, 50 marines, 17 women, and seven children. One of these children lived afterwards to be called the 'Founder of Melbourne.'

News had arrived about the splendid country of the Derwent; and this, with the disgust of Captain Collins at his sandy home, led to the abandonment of Port Phillip, after three months' trial, for the southern port of Van Diemen's Land. The 'Lady Nelson,' that had first entered the bay, assisted in the removal of the party from it.

The lieutenant of the 'Calcutta' had little prophetic skill when he declared, 'The kangaroo seems to reign undisturbed lord of the soil—a dominion which, by the evacuation of Port Phillip, he is likely to retain for ages.'

A runaway convict, William Buckley, lived with the blacks, the only white man in Port Phillip, till 1835, when Batman's party discovered him.

The second attempt at settlement in 1826 was equally unsuccessful.

Western Port, then located by some prisoners and their officers, is one of the few portions of Victoria neglected now. Its swamps and sands were no recommendation in 1826 to the lonely exiles, who had no more enterprise to journey a few miles in search of better land than had their predecessors in 1803. Had the latter but crossed the bay, or gone to the head thereof, they would have found one of the most charming and fertile spots the world can show.

A few months wearied the disheartened settlers, and for the second, and, as believed, the last time, the shores of Port Phillip were forsaken.

But Hume and others still protested that the land was good. John Batman, a Paramatta lad, knew from

VICTORIA.

HISTORY.

First settle-
ment on a
bad site.307 prison-
ers.Removal to
Van Die-
men's
Land.

Prophecy.

Buckley 32
years with
the blacks.Settlement
at Western
Port, 1826.Second
abandon-
ment.

VICTORIA.

John Batman was Hume's friend.

A request to settle the country.

The Hentys at Portland Bay.

Batman and Gellibrand.

J. P. Fawcett.

Batman's company formed.

Visit in May 1835.

Treaty with the natives.

his friend and playmate, Hume, something of the country. Going afterwards to Van Diemen's Land, he urged an enterprising lawyer, Mr. Gellibrand, to join him in a speculation.

The two wrote to the Governor in January, 1827, asking permission to settle with flocks and herds upon the Port Phillip side. This request was refused.

In 1833 Mr. Hume published an account of his journey in 1824. The year after, the Messrs. Henty of Launceston, having information from sealers, crossed over, without consulting the authorities at Sydney, and formed a fishery and squatting station at Portland Bay.

Two other Van Diemen's Land colonists sought to do the same. One, of course, was Mr. John Batman, who laboured to get up a company to land flocks and herds on the shores of the abandoned Port Phillip. As the Governor of New South Wales would not sanction a settlement, Messrs. Batman and Gellibrand urged the Lieutenant-Governor at Hobart Town to patronise their scheme, and to apply home for Port Phillip to be placed under his own jurisdiction instead of that of the Sydney Governor.

The second dreamer of the *other side* was Mr. John Pascoe Fawkner, of Launceston. Belonging to another set of acquaintances, he did not seek the alliance of officials and wealthy free settlers, but got three or four tradesmen to join in his scheme.

An Association was formed in Hobart Town, and Mr. John Batman sent to report upon the locality.

After nineteen days' passage from Launceston—now a day's run for a steamer—he entered Port Phillip on Friday, May 29, 1835. His story sent the settlers of Van Diemen's Land wild about the new country.

He thus spoke of it:—"Beautiful land—kangaroo grass about ten inches high, and as green as a field of wheat—beautiful plains—I never saw anything equal to the land in my life—I was never so astonished in my life."

His friend, the lawyer, held with himself that the natives, and not the Sydney Governor, had the right to grant anyone permission to settle at Port Phillip. A deed of conveyance had been prepared, and Batman got the signatures of chiefs to it. However ridiculous this

may appear, as a parody of Penn's treaty with the Indians, there was the recognition of a principle which it would have been wise and Christian-like to have followed elsewhere.

Batman returned exultant to Launceston, telling Fawkner and others of his good fortune, and hurrying forward sheep to the pleasant pastures.

He faithfully discharged his duty to the aborigines, giving them, according to the terms of his treaty, 100 blankets, 100 tomahawks, 50 looking-glasses, 5 tons of flour, &c. They, on their part, were supposed to allow the company the right of pasturage.

Mr. Fawkner's party sent a schooner over to the Yarra-Yarra with stores, which reached the river on the 29th of August. Fawkner himself arrived on October 11, 1835. He opened the first public-house for the entertainment of the numerous arrivals from New South Wales and Van Diemen's Land. The Yarra location of Batman and Fawkner grew to be the town of Melbourne.

The Sydney ruler resented the invasion of his deserted territory, and ordered off all intruders. He exerted himself, especially, to thwart the designs of the Association, and succeeded in inducing the Home Ministry to disallow their claim. He was, however, obliged to permit the occupation of the country, and took it under his supposed protection by sending down a constable thither from Sydney.

The unruly settlers had met together, organised a temporary government, and appointed Mr. Simpson, once a Van Diemen's Land magistrate, as their arbitrator for the time being.

At length, in October, 1836, Captain Lonsdale arrived as Commandant on the Yarra. The growth of the province became so considerable, that Port Phillip was acknowledged as a district of New South Wales, and Mr. Latrobe, on October 1, 1839, was appointed Superintendent.

Before this, however, Governor Bourke visited the place which had excited such interest among Australian squatters. He came in April, 1837, and had Melbourne proclaimed on May 19. The first land sales of the settlement took place on June 1, when half-acre lots were purchased for from 20*l.* to 80*l.* each.

Articles of purchase.

Fawkner's arrival in October.

Rise of Melbourne.

Parties warned off.

First govern-
ment.

Commandant arrived, 1836.

Mr. Latrobe Super-
intendent,
1839.

First land sale in Melbourne.

VICTORIA:

Speculation and losses.

The publication of Major Mitchell's story of 'Australia Felix' provoked a rush of emigrants from Great Britain. Sheep and cattle, land and provisions, mounted to fabulous prices. Unwonted prosperity gave rise to absurd speculations, and these involved many in ruin. But though sober times came in 1842, and five guinea sheep sold for two shillings a head, no one spoke of abandoning the country for the third time.

Recovery and success.

Steady industry and patience brought about a recovery. The colony was prosperous in the best sense in 1850. The flocks were numerous, the land was becoming settled in a prudent manner, Melbourne trade improved soundly, schools and churches were well attended, and a more peaceful and happy community could not be found in all Australia.

Port Phillip became Victoria 1850.

On July 1, 1850, Port Phillip was separated from New South Wales, and proclaimed an independent colony by the name of Victoria, with Mr. Latrobe as its first Governor.

But the next year, 1851, was the period of a grand transformation scene.

Gold discovered in Victoria 1851.

Gold had just been discovered in New South Wales. The news awakened a search for the precious metal in Port Phillip, where rumours of its existence had been long heard. Ballarat, Mount Alexander, and Bendigo answered to the call, and showers of nuggets proclaimed that the pastoral districts of Port Phillip had become the land of gold.

Effects of the gold fever.

Fortunate as many were who in those early golden days drew treasure from the rocking of a cradle, all who witnessed the remarkable circumstances attending that social as well as commercial revolution may be, also, esteemed fortunate. Society was uprooted for awhile, and the millennium of labour was believed to have come. The wildest excitement, the most prodigal expenditure, the most boisterous revelry, with rudest assertions of independence, alarmed the sober citizen.

Order restored.

But the tumult sank into peace, and order arose from chaos. Law-loving Britons observed the outward proprieties, Government recovered from its panic, and affairs settled down into a routine, extraordinary as the times continued.

The predictions of the gloomy or timid were not

verified. Society, though reeling awhile from the shock, became steadily progressive. The flocks and herds, well-nigh deserted for a time, were an increasing source of wealth. Trade, deranged for a little, bounded forward with giant strides. The churches and schools had to be multiplied for a growing throng of honest worshippers and patient scholars.

Political progress followed the march of gold. Miners resented their slavish condition. Citizens loudly complained of the rule of an almost nominal Government. The press persistently demanded political enfranchisement for all classes. Public meetings vehemently denounced the waste, indecision, and tyranny of misrule. Petitions for complete emancipation were forwarded home. The local authorities at last yielded to the pressure, and joined in the request for more freedom.

Liberty of action came with the new constitution, in 1855, when the reign of responsible Government commenced.

Since then the progress of the colony, with those checks consequent upon excessive speculation, has been remarkable. Perhaps no country in the world ever exhibited such evidences of internal prosperity upon a sound and satisfactory basis.

Though the influx of immigration has long ceased, and even the production of gold has become less in amount, Victoria has developed in everything that can make a nation truly great. In its handsome capital, its country roads and farms, its magnificent stations, its well-managed mines, its growing trade, its well-to-do people, its efficient public instruction, its liberally-supported churches, *it has taken a position first in the Australias*, and is not relatively inferior to the most favoured of countries.

Geography and Climate.

Victoria lies between the Murray river and the sea, having New South Wales to the North and East, but South Australia to the West. Naturally, the colony is divided into five parts. The Southern is between the Dividing Range and the sea. The North Central is between the Dividing Range and the Murray river. The

VICTORIA.
Social progress.

Demand
for political
freedom.

New consti-
tution 1855.

Satisfac-
tory state
of the
colony.

First in the
Australias.

GEOGRA-
PHY.

Five
natural di-
visions.

VICTORIA.

North-Western is between the Grampians and the Murray, near the South Australian border. The North-Eastern is between the Australian Alps and the Murray. The South-Eastern, or Gipps Land, is between the Alps and the sea.

Distribu-
tion of
people.

Area 86,881
sq. miles.

The mass of the population is in the centre of the Southern, and the South of the North-Central. The West of the Southern, the North-Eastern, the North-Western, the South-Eastern, are all thinly peopled.

The area is 86,881 square miles, or 55,571,860 acres, being about the size of Great Britain. Victoria is not above the thirtieth part of the continent of Australia. Its extreme length from east to west is 420 miles. The western breadth is 260 miles; it comes to a point at the south-east extremity. The coast line is reckoned 600 miles. It is the southernmost colony of Australia, and is but 200 miles from Tasmania.

*Mountains.**Mountains.*

The Australian Alps extend south-westerly from eastern New South Wales, and are met by the Dividing Range, which extends along the centre of the colony, from west to east. Both these connected series of hills have their spurs on either side. While the two ranges are in some parts but of moderate width, they are in others from 50 to 100 miles broad.

Among the ranges joined to the main Alps are the Bogong, Gibbo, Buffalo, on the North, and Hoddle, Strzelecki, Cobboras, and Dandenong on the South. Forest Hill, the source of the Murray, is 5,000 feet high; Wellington, 5,270; Tamboritha, 5,380; Kent, 5,130; Baw-Baw, 5,100; Gibbo, 5,000; Castle Hill, 4,860; Useful, 4,800. Smyth and Selwyn are higher. Wilson's Promontory is not connected with the Alpine chain.

In the Dividing Range are the Goulburn, Plenty, Kilmore, Macedon, Alexander, Jim Crow, McIvor, and Pyrenees chains.

The principal hills among these are Macedon, 3,400 feet; Buninyong, 2,450; Warrenheip, 2,440; Alexander, 2,435; Bullarook, 2,400; Ida, 2,000; Franklin, 2,100; Buninyong, Ararat, Cole, Ben Nevis, Tarrengower, Barker, Spring Hill.

Beyond the western end of the Dividing Chain are

the Grampians, 50 miles from North to South. Zero is the northern point, Sturgeon the southern, and William the eastern. Mount William is 5,500 feet high. West of the Grampians, and toward the border, are the Sierra, Victoria, and Dundas ranges.

Eliza, Martha, and Arthur's Seat are on the east side of Port Phillip Bay.

Hundreds of volcanic cones and craters are found to the west of Melbourne, and about the Dividing Range.

Among these may be named, Buninyong, Warrenheip, Napier, Tower Hill, Shadwell, Rouse, Franklin, Elephant, Ecles, Mercer, Porndon, Anaki, Aitken, Gisborne, Noorat, Greenock, Glasgow, Smecaton, and Blowhard.

Rivers.

The Murray, rising in the Alps, runs along the north boundary into South Australia, and so on to the sea. The part within the colony's limit has a course of about 1,400 miles. The chief Victoria branches are the Mitta-Mitta, Indigo, Ovens, Goulburn, Campaspe, and Loddon. The north-western Avoca and Wimmera lose themselves in salt lakes and sands.

Rivers.

The Coliban and Exe are affluents of the Campaspe; the Howqua and Broken, of the Goulburn; the Fryer, Jim Crow, and Korong, of the Loddon. The Bendigo creek is lost in the sands. The Wimmera, Avoca, Loddon, Campaspe, and Coliban rise on the north side of the Dividing Range.

The southern streams are more numerous, though shorter. Those from the Dividing Range are the Hopkins, Fiery Creek, Leigh, Werribee, and Salt Water.

The Grampians give rise to the Wannon and Glenelg; the mouth of the latter is at the western boundary.

From the Otway ranges are the Gellibrand and Curdie, with the Barwon of Geelong.

From the Alps are the Melbourne Yarra-Yarra, and the Gipps Land rivers of Latrobe, Macalister, Mitchell, Thompson, Avon, and Snowy. The Albert is the small stream of Port Albert. The Bass falls into Western Port, and the Tarwin into Anderson's Inlet by Cape Patterson.

Lakes.

These are either salt or fresh. Some of these were

Lakes.

VICTORIA.

formerly craters, and others are sea lakes. Salt lakes occur northwestward near the Murray, and on the southern plains.

The Gipps Land lakes, having a connection with the sea, are Wellington, 70 square miles, Victoria, 90, Reeve, 40, Tyers and King. Lake Omeo is in North Gipps Land.

South of Geelong is the sea lake Connewarre. Westward are salt Corangamite, 75 square miles, fresh Colac, 10, fresh Burrumbeet, 8, salt Boloke, and fresh Learmonth, Wendouree, Terang, and Purrumbeet. Timboon is brackish. Albacuya, Hindmarsh, Tyrrell, and Boga are northwestward.

*Bays.**Bays.*

Discovery is the most western. Portland is near it. Port Fairy is more eastern, and Lady Bay is east of Port Fairy. Port Phillip is 40 miles long, and nearly as broad.

Western Port is east of Port Phillip. Sealers' Cove and Corner Inlet are by Wilson's Promontory. Port Albert is the south-western harbour of Gipps Land.

*Capes.**Capes.*

Nelson and Bridgwater are western capes. Otway is 60 miles south-west of Port Phillip. Lonsdale and Nepean are the heads of Port Phillip, and Schanck is south-east of them. Grant, Wollomai, Patterson, and Liptrap are more eastern.

Wilson's Promontory is the southernmost point of Australia. Cape Howe is at the junction of Victoria and New South Wales.

*Islands.**Islands.*

French and Philip are in Western Port. Others are but rocks.

*Divisions.**Divisions.*

The colony has been divided into districts and counties.

The parts least settled are in the four districts of Gipps Land, Wimmera, Loddon, and the Murray. The Wimmera, comprehending one-fourth of Victoria, is the distant and level north-west. The Loddon is the fertile

north central, and the Murray is the rocky north-eastern district. Gipps Land, as has been stated, is to the south-east.

At first only three counties were formed, viz., Bourke, containing Melbourne; Grant, around Geelong; and Normanby, about Portland.

Several other counties followed; Mornington, Evelyn, and Anglesey are to the east; Polwarth and Heytesbury, south-west; Grenville, Hampden, Ripon, Villiers, Dundas, and Follett, near the western border.

Dalhousie, Talbot, and Rodney were cut out of the Loddon squatting district afterwards. Then Benambra, Begong, Delatite, Moira, and Wonnangatta were formed from part of the Murray district; Bendigo, Gladstone, and Gunbower from the Loddon district; Borung, Kara-Kara, Karkarooc, Millewa, Lowan, Tachera, and Weeah from the Wimmera; and Buln-Buln, Croajingolong, Dargo, Tambo, and Tangil, from Gipps Land.

The colony is also divided into the six electoral provinces of Central, Southern, South-Western, Western, North-Western, and Eastern. There were 55 electoral districts. Part of Victoria is divided into 112 shires, and the other portion into the road districts.

Towns.

Towns.

Melbourne, the capital, is near the mouth of the Yarra-Yarra, and three miles from the shore of Port Phillip Bay. Its latitude is $37^{\circ} 50'$, and its longitude, $144^{\circ} 58' E.$ These numbers are usually reduced to 38° and 145° . The population of Melbourne and its suburbs is not far from three hundred thousand.

Geelong, the second port, is 45 miles from Melbourne, on the south-western side of Port Phillip. The three western ports are Warrnambool, Belfast, and Portland. The first is 170 miles S.W. of Melbourne; the second, 190, the third, 255. Port Albert, Gipps Land, 173 S.E.

Williamstown and Sandridge are the ports of Melbourne. On Port Phillip Bay are Snapper Point, 35 miles from Melbourne, and Queenscliff, 65, the two watering-places for Melbourne and Geelong people.

The principal suburbs of Melbourne are Fitzroy, Collingwood, Carlton, Richmond, Sandridge, Emerald Hill, St. Kilda, Prahran, Hawthorne, Kew, Footscray, Bruns-

VICTORIA.
Diggings' townships.

wick, and Essendon. Brighton and Heidelberg are each eight miles distant. Lilydale, 24 N.E.; Sorrento, 40 S.

Of the Diggings' Townships, some are north of the Dividing range, and others south.

Those on the south side of the summit line are Gordons, 54 miles west of Melbourne; Blackwood, 60; Egerton, 60; Steiglitz, 70; Buninyong, 90; Ballarat, 97; Sebastopol, near Ballarat; Browns', 100; Synthesdale, 108; Scarsdale, 110; Linton, 115; Raglan, 122; Beaufort, 124; Ararat, 150; and St. Arnaud, 146.

On the north side, E. of the range, are Tarradale, 68; Heathcote of McIvor, 70; Castlemaine, 78; Daylesford, 80; Maldon of Tarrengower, 85; Hepburn, 85; Nagambie, 85; Sandhurst of Bendigo, 100; Eagle Hawk, 102; Maryborough, 104; Dunolly, 106; Amherst, 110; Creswick, 110; Huntly, 112; Moliagul, 115; Rushforth, 120; Avoca, 120; Clunes, 120; Lexington of Burn Bank, 125; Tarnagulla, 125; Inglewood, 128; Kingower, 130; Berlin, 130; Korong, 150; Stawell of Pleasant Creek, 180.

The Alpine Diggings are east and north-east of Melbourne. The eastern are on the Gipps Land frontier; as, Matlock, 116; Jericho and Woods' Point, 120; Walhalla, 130; El Dorado, 170. Beaconsfield is east.

The north-eastern mining townships are Jamieson, 125; Wangaratta, 165; Chiltern, 180; Beechworth, 185; Indigo, 190; Yackandandah, 200; Buckland, 230; Omeo, 250; Alexandra, 90; Bright, 225.

The Gipps Land townships are Rosedale, 130; Sale, 140; Bairnsdale, 180. Welshpool is on Corner Inlet.

On the Murray river are Swan Hill or Castle Doddington, 240 north-west; Echuca, 170 north, and Belvoir, opposite Albury, 210 north-east; Wodonga, 187 N.E.

Farming townships.

Of the Farming Settlements south of the Dividing Range, those near Geelong are Batesford, Fyansford, Ceres of Barrabool hills, Duned, Winchelsea, and Inverleigh.

Farming towns south-east of Melbourne are Dandenong, 20; Cranbourne, 28; Berwick, 30. Corinella is by Western Port. Cowes, 55; Brandy Cr., 65; Maffra, 140.

North of Melbourne, toward the main range, are Keilor, Campbelfield, and Broadmeadows, 10-12 miles; Yan-Yean, 20; Wallan-Wallan, 30; Gisborne, 41; Woodend, 50.

South-west of Melbourne are Lethbridge, 60; Shelford, 70; Meredith, 70; Colac, 90; Cressy, 90; Camperdown, 120; Terang, 135; Hexham, 160; Penshurst, 170; Koroit of Tower Hill, 185; Yambuck, 210; Narrawong, 240; Heywood, 250; Cobden, 130.

Westward of Melbourne are the Farming Melton, 25; Bacchus Marsh, 32; Ballan, 50; Rokewood, 85; Warrenheip, near Ballarat; Miners' Rest, 104; Skipton, 116; Carngham, 120; Mortlake of Mount Shadwell, 140; Wickliffe, 170; Dunkeld, 180; Branholme, 215; Hamilton of the Grange, 220; Coleraine, 230; Harrow, 250; Sandford, 250; Digby, 255; Merino, 250; Casterton, 270; Apsley, 317.

On the north side of the Range, and north of Melbourne, are Kilmore, 40; Lancefield, 42; Pyalong, 52; Kyneton, 57; Malmsbury, 63; Harcourt, 80; Newstead, 84; Murchison, 94; Rochester, 139.

To the north-west, on the north side of the range, are Yandoit, 90; Kingston, 96; Carisbrook, 101; Smeaton, 109; Learmonth, 110; Burrumbeet, 110; Glenorchy, 190; Horsham, 220; Redbank, 137.

North-eastward, at the foot of the Alps, are Seymour on the Goulburn, 65; Avenel, 75; Yea, 75; Benalla, 132; Mansfield, 145; Rutherglen, 176; Shepparton, 118.

The population of Melbourne and suburbs in 1879 was 280,000; Geelong, 25,000; Ballarat, 50,000; Sandhurst, 30,000; Castlemaine, 9,000; Creswick, 5,000; Williamstown, 9,000; Portland, 4,500; Maryborough, 14,000; Belfast, 3,500; Warrnambool, 8,000; Beechworth, 7,000; Daylesford, 4,000; Kyneton, 10,000.

The CLIMATE of Victoria, while milder than New CLIMATE. South Wales and South Australia, is warmer and drier than New Zealand and Tasmania.

Though so small a colony, there may be said to be in it four distinct climates—the north and south sides of the Dividing range, the Alpine country to the east, and Gipps Land to the south-east.

The north, and particularly the north-west, may be regarded as hot and dry. The south and south-west are moister. The Alpine region has severe snow storms in the winter, while no snow falls elsewhere. Gipps Land, enclosed between the sea and lofty ranges, enjoys one of the most delightful and healthy climates in the world.

Population
of towns.

VICTORIA.**Hot winds.**

Victoria has the annoyance of the hot wind blowing from the centre of the continent. Professor Neumayer, however, speaks of an average of 14 days a year of this visitation in Melbourne and the Diggings over the ranges, 6 at Geelong, 11 at Portland, and but 3 at Port Albert of Gipps Land. Though so disagreeable, especially with its accompaniment, the dust, there is no miasmatic or deleterious substance conveyed by it. The Sirocco of Italy is much more oppressive, being laden with moisture.

Fortunately, Melbourne has most winds from the sea, or southward, in summer, and from the north in winter.

Winds.

According to Mr. R. Brough Smyth, the Melbourne winds were north 70 days, north-east 35, east 15, south-east 30, south 75, south-west 45, west 35, north-west 30; leaving 30 calm days in the year. The windy weather of summer makes that season more endurable.

The temperature of Melbourne may be compared to that of Naples. The thermometer, except in the Australian Alps, is very rarely seen at 30°. But in a violent hot wind it has been known 115° in the shade, and 130° in the sun. Mr. Howitt saw it 139° at noon in the sun. It stood the same at Geelong on Christmas that year, and was 110° in the shade at Melbourne early in 1874.

**Mean heat
of Mel-
bourne 58°.**

The mean for Melbourne is 58°. The range of 1879 in the shade was from 31° to 103°, with a mean of 57°. Sandhurst is hotter than Melbourne, and Ballarat is cooler. Melbourne temperature was down to 27° in 1869. In February, 1877, it was from 45° to 100°.

Rain.

The rain on the Murray side of the colony often comes with a north-west wind, though south-west is the wet wind of the coast side. The former may be a downward returning sea-current of air.

The Dividing range, as before mentioned, influences the climate, especially in the tables of rain gauges. The superior elevation of townships there enables them to obtain more rain than their inland position may be otherwise supposed to warrant. The high land to the north-east—the Ovens district—secures for it a rainfall not to be found on the neighbouring plains. Thus, Beechworth, of the Ovens region, had 35 inches of rain when even Portland, by the sea, had but 27.

The dry Wimmera District, to the north-west, has

rarely above fourteen inches a year, while the evaporation is enormous. The sandy nature of the soil in that part is also unfavourable. Cape Otway has nearly three times as much rain as in the north.

The geology of Victoria, as a whole, is far more favourable to the climate than that of New South Wales, Queensland, or South Australia. The prevalence of slate and basalt rocks over sandstone is a decided relief, especially to the eyes, while evaporation is retarded.

The Melbourne rainfall is not, perhaps, more variable Rainfall. than in other places, though indicating a good range. It has been as high as 48, and as low as 14. In 1845, the amount was 24 inches; 1849, 44; 1850, 27; 1859, 21·7; 1875, 33; 1878, 25 in 116 days.

For ten consecutive years the amounts were thus:—

1862	.	.	.	22	inches in 175 days.
1863	.	.	.	36·4	" 171 "
1864	.	.	.	27·4	" 153 "
1865	.	.	.	15·9	" 139 "
1866	.	.	.	22·4	" 107 "
1867	.	.	.	25·8	" 133 "
1868	.	.	.	18·27	" 120 "
1869	.	.	.	24·6	" 129 "
1870	.	.	.	33·7	" 129 "
1871	.	.	.	30·17	" 125 "
1872	.	.	.	32·5	" 136 "

Melbourne averages 25 inches, being higher than Melbourne London, Adelaide, and Hobart Town, but lower than 25 inches. Sydney and Brisbane. Ballarat, in 1877, had 28·5; Sandhurst, 17; Ararat, 17; and Portland, 25 inches.

In the dry year of 1862, when Melbourne had but 22 inches of rain, though near the Bay of Port Phillip, other places suffered even more. Those of the west received most of all, and the hilly portions more than the lower. Thus, Portland had 31 inches; Beechworth, 27; Buninyong and Camperdown, 26; Ballarat, 23½; Ararat, 22; Sandhurst, 18; and Heathcote, 17.

The temperature of that year, however, was not so very high. The mean for the hottest month, January, stood thus: Melbourne, 68°; Cape Otway, 60½°; Ballarat, 66°; Portland, 68°; Ararat, 70°; Heathcote, 70½°; and Sandhurst, 74¼°. In 1878, the highest temperature of Melbourne in shade was 103°, and lowest 31°.

The Ozone, which has very considerable effect upon Ozone.

VICTORIA.

Effect of ozone.

health, has been attentively observed by the able and indefatigable astronomer of Melbourne, Mr. R. L. J. Ellery.

He describes the ozonised air as accelerating the respiration, exciting the nervous system, and promoting the coagulability of the blood. Its odour is like chlorine, and it may be oxygen in an altered condition. The ebb of ozone in Melbourne, producing a lower tone of the system, comes with the easterly wind. When the wind suddenly chops round from north to south, or southwest, the largest amount appears, sometimes originating influenza.

While Melbourne ozone averaged 3·12 in the day, it was 3·83 at night. Beechworth had the high rates of 4·19 and 5·95. More ozone is seen in autumn and winter than in spring and summer.

Earthquakes.

Earthquakes are very rarely felt in Victoria, where the shocks are quite slight. Mr. Ellery records the observation of 1,428 meteors in 668 hours.

It must be admitted that Victoria, on the whole, has the most pleasant and healthful climate on the Australian continent.

Geology of Victoria.

GEOLOGY.

Major Mitchell was the first to tell the story of Port Phillip geology. In 1835 he traversed the Tertiary beds covering the Silurian rocks southward of the Murray. He crossed and recrossed that dividing range which has subsequently revealed so vast a golden treasure. He trod those wonderfully fertile downs and plains to the westward, which were so indebted to volcanic agency for their grassy luxuriance. He ascended basaltic peaks, and explored craters of ash and scoria. The sturdy granite piles became objects of his admiration and study.

The first to observe the geology of the country, the first to make known its peculiarities, he was the first to arouse interest at home in that newly discovered realm, and much of the first immigration from Europe was to be ascribed not less to the romantic descriptions of geological features, than to the glowing picture by the Surveyor General of flowing streams, flowery meads, and delicious airs.

The country has not lost its geological interest since that day. While its meadows retain their earliest repu-

tation, and its climate is held in as deserved regard, the hills and vales, the cinder cones and lava plains, the granite peaks and slate ledges, the sandstone ruggedness and limestone clothed with verdure, all command admiration from the traveller, and combine to make a happier home for colonists.

Tameness of scenery seldom continues long with the Victorian rambler. He is never out of the sight of hills, unless he journeys into the north-western wastes. Even on the basaltic plains he has the great range beside him, and many a point of old eruption rises before him. But over the whole eastern division, Alps on Alps appear.

The interest of the geology is that it is not only romantic and beautiful, but useful and valuable. But one-fourth the size of the smallest of the other colonies on the Australian continent, Victoria possesses remarkable variety of rocks, and can count upon an auriferous extent of country above the proportion seen elsewhere.

Beyond any of the other colonies, it has enjoyed the privileges of that denudation which swept off so much of the heartless calcareous sandstone that formerly covered nearly the whole continent with its barren garb. Had not enormous and continued floods swept away the immense thickness of this dreary and inhospitable formation, with that of the carboniferous sandstone, Major Mitchell would never have conferred upon Port Phillip the appellation of 'Australia Felix.'

Enough of that disheartening tertiary pall remains to the far west, to make the settler appreciate his deliverance from its presence where cornfields wave, where vineyards smile, and where golden crystals shine.

The miner is thankful for the geological transmutations which threaded the rocks with quartz veins, and filled them with the sparkling treasure. He, too, appreciates the aqueous action which broke down cliffs to scatter the débris along the lines of ancient streams.

The base of the country is Silurian. Mr. Smyth saw a Cumbrian floor in Gipps Land and by the Glenelg; some think it lower metamorphic Silurian. The Silurian area is very extensive, and has been computed by Mr. Selwyn, Government geologist, to be not less than 30,000 feet, or nearly six miles, in thickness.

Scenery attractive.

Rocks useful.

Great denudation produced fertility,

and exposed metals.

Base is Silurian.

VICTORIA.

That gentleman describes the mass as 'consisting of a great crumpled, contorted, and broken synclinal trough of lower palæozoic and older strata, overlaid unconformably by an equally extensive, broken, and undulating anticlinal arch of upper palæozoic, and, perhaps, mesozoic rocks.'

The Grampians and Alps.

The Dividing range, running through the centre of the country from east to west, may be described simply as Silurian and granite. The Grampians, cutting off the advances of the former to the west by its bold progress from south to north, show a similar geology. The towering, massive, conflicting, and tangled Australian Alps to the eastward tell the same tale of age.

Denudation.

Stretching over the site of Melbourne, and all the lower-lying country from the Grampians to the Alps, was once an enormous arch of superincumbent rocks, 300 miles in length, whose removal has now left rearing before us the stupendous Silurian walls of those two great ranges of mountains.

Silurian rocks meridional.

The strike of these older rocks is at right angles to axis of the long Dividing range. These meridional lines, nearly north and south, are seen in parallels, more or less obtrusive above the surface, over a vast extent of country. Their consistent course is a sure compass to the bushman, and the streams north and south of the Main range are thus sent in northward directions to the Murray, or in southward to the sea.

Lower Silurian the auriferous one.

The lower palæozoic series of sandstones, mudstones, and, more rarely, limestones, are seen at intervals 400 miles from east to west, and northward from the ocean to the Murray. Much metamorphism has taken place among them. It is usually the bedrock of the gold-fields of Sandhurst and Castlemaine.

Area of palæozoic formation.

The area of this lower auriferous formation has been placed at 30,000 square miles, or nearly one-third of the colony. It is, of course, presumed to stretch beneath other beds.

It is fortunate for the interests of the colony that so much of this series is laid bare, it being the mineral-bearing one. The upper palæozoic contains very little gold, and may be considered as being non-metalliferous. It consists of sandstone, grit, shale, schist, mudstone, some limestone, quartzite, and conglomerate or breccia.

Though not searched for gold, the upper Silurian rocks are available for excellent building material, especially the sandstone of the Mount Sturgeon. They are in great force at the western Grampians, and at Ben Cruachan and Mount Wellington of Gipps Land. They appear in the conglomerates and shales of Mount Tambo, the head of the Mitta Mitta. The sandstones of the Grampians, with the conglomerates of Macedon and the Avon river, are said to be allied to the old red sandstone period of England.

Here and there intermediate patches are recognised; as at Bacchus Marsh, Heathcote, and Mansfield. The Yering caves of the Yarra are of the limestone of Upper Silurian, and afford a good soil for vines. Some of the Silurian rocks have decomposed into clays, or firebrick material.

Above this Silurian development repose the Devonian sandstones of the Coliban, the sandstones of the Dargo road, the sandstone of Mount William and Mount Zero, in the west, the shale of Broken river, and the quartz grit of Mount Tamboritta, Gipps Land. The slates of the Devil's river, the conglomerate of Heathcote, and the fossiliferous limestone of Buchan, in Gipps Land, are all placed by Mr. Brough Smyth and others among the Devonian or Permian. Mr. Daintree says the Permian rocks rest on the upturned edges of the Silurian slates and sandstones.

The area of this has been supposed 7,600 square miles.

The *Secondary* formations, once believed absent in Australia, have certainly been very largely denuded, or are buried beneath the enormous beds of the Tertiary sandstones.

The two great centres of them are the Cape Otway country and the region east of Western Port. The mountain limestone south of Omeo, the carboniferous strata of Hoddle's range, and patches west of Geelong, with the Wannon district toward the Glenelg, are all Mesozoic.

The great bay between Cape Otway and Wilson's Promontory has disconnected the two principal secondary localities. The floods of basalt northward and westward of Melbourne, down to the western border, rest upon mesozoic deposits, if they had not been previously removed by floods of water.

VICTORIA.

Upper
Silurian
has little
gold.

Devonian
rocks.

Secondary
formations.

VICTORIA.

Rocks not good for farmers.

Coal limited in area.

Hopes of coal

No Oolite.

Granite.

The Cape Otway district, about 1,800 square miles, is almost entirely uninhabited, except towards Geelong. The Western Port carboniferous area, 1,500 square miles, is also comparatively unoccupied. The Wannon and Glenelg portion, 350 square miles, is chiefly pastoral. The Welshpool of Gipps Land, 320 square miles, has very few people. In most instances, the prevalence of sands renders these places undesirable.

The Coal crops out along the eastern sea beach of the Cape Otway country, as well as at Cape Paterson and other points of Western Port. The want of harbours on the coast is a serious difficulty. Better seams have been found inland by sinking, though unavailable from the deficiency of approach. Kilcunda mine is hopeful.

First known at Western Port in 1826, an effort was made to work the mineral in 1849, and at subsequent periods. But the Government geologist, Mr. Selwyn, discouraged attempts. At his suggestion, a search was made at Brighton, a few miles from Melbourne, and on the Barrabool hills of Geelong, but without success.

No one doubts the existence of good coal, though Mr. Selwyn questions the extent of the field, and the thickness of the seams, owing to the mineral being Mesozoic, and not true coal. Professor McCoy, of Melbourne, has counselled the miners to go farther down, and so reach better deposits. It may yet be found with the older sandstones of the Grampians, and of North Gipps Land.

In age, the formation may be like the Wiannamatta beds of New South Wales, the uppermost of the coal series there. In East Gipps Land, however, the finding of palaeozoic plants encourages the belief that the real coal will be got there. In the coal measures of Cape Otway, ferns fifty feet long have been unearthed; these are similar to some now growing in New Zealand.

There is no trace of the Cretaceous or upper Oolitic series.

Granite, of all varieties, and under all circumstances, is recognised in the colony.

Great masses of it are seen at the north-eastern angle by the Upper Murray, south and west of the Ovens, between the Ovens and the Upper Goulburn, on the Mount Alexander and Tarrengower chains, at the head waters of the Coliban, the Upper Glenelg, the Dandenong

mountains, and in the south-eastern corner toward Cape Howe.

Wilson's Promontory, formerly thought to be connected with the granite of the Alps, is cut off from it by a great interval of slate and carboniferous rocks.

Victorian granite is binary, ternary, or quaternary. It approaches the slate in character on one side, and the igneous rocks on the other. Some sorts have a red ferruginous quartz and hornblende, and form good material for building. Mount Macedon is rich in many sorts of granite. Cape Wollomai is of red felspar and green mica. In other places the felspar is white, and the mica is yellow.

It occurs most often as an intrusive rock, and is of different ages. The Silurian and carboniferous formations are much invaded by it. Isolated hills of granite are met with in all quarters.

Porphyries are common enough in the Alps and in the Dividing range. The greenstones, preferred by the natives for their stone tomahawks, are sometimes diorite or of triclinic felspar. They constitute the mass of a range east of Lancefield. It is in a decomposed diorite of Wood's Point, in the Alps, that rich auriferous quartz veins have been worked to so much profit.

The Tertiary beds, according to Mr. Selwyn, cover one-third of the surface of the colony.

The great calcareous sandstone formation, extending from King George's Sound along West Australia and South Australia, enters Victoria across the Glenelg on the west, and Murray river on the north-west. It has all the characteristics described in the geology of those other colonies as *Desert sandstone*. The great amount of loose sand found upon its surface makes some parts practically a desert.

The depth is several hundreds of feet. It disappears south of the Dividing range, excepting on the southern and eastern shores of Port Phillip and Western Port. It reappears in the lake district of Gipps Land, as a fringe along the sea-shore.

The Wimmera country to the north-west, very suitable to feed sheep upon its salt bush and thirsty plains, is of the geology of the Brighton sands, which extend to the eastern suburbs of Melbourne. The same series

Green-stone.

Tertiary.

Much like
desert sand-
stone.

Poor land.

VICTORIA.

is seen on the indented heads of Port Phillip, and across Western Port.

This great deposit is Pliocene tertiary. Its composition is of varied character, though principally arenaceous limestone, or calcareous sandstone, the former being preferred by the settler.

Old Pliocene is auriferous.

The tertiary covering of the gold, or rather the material in which the digger searches for alluvial gold, is the older pliocene. It may be quartz gravel, ferruginous gravel, clay, sandstone, conglomerate, hard cement, or pipe clay.

Newer Pliocene period.

The newer pliocene, besides being of the constituents of the above, may be marl, lignite, the Loddon sandstone, or the freshwater sandstone of Geelong. Coloured clays at Warrnambool exhibit some post-pliocene, like the sandstone of Point Nepean. In the pliocene period the Western Port was joined with Port Phillip Bay. A depression of 15 feet would again unite those waters. There is the evidence of three successive risings at Port Phillip Heads. Mr. Ellery speaks of the Bay rising in one part at the rate of 4 inches in a year.

Miocene not auriferous.

The Miocene is developed in the Moorabool Valley, west of Geelong, with its tropical fauna, and in the Cape Otway region for six miles along the coast. St. Kilda miocene rests on the Silurian rock. The Portland sandstone, the shell limestone of the Barwon, and the rough limestone of the Gipps Land lakes are of the miocene.

According to Mr. Selwyn, the miocene deposits are nearly wholly destitute of gold; others doubt this. Mr. Smyth's oligocene is Mr. Selwyn's eocene. Near Melbourne are some remains of pliocene sand dunes.

Volcanic rocks.
No active crater.

The volcanic characteristics of Victoria are remarkable. Though Australia has not an active volcano, like the Tongariro of New Zealand, it has in some of the extinct craters of Victoria the latest illustrations of igneous action. The Blacks have traditions of eruptions in the times of their grandfathers.

Basalt.

As basalt, the flow has become the great western plains, and the plains north and west of Melbourne. The discharge is conspicuous throughout the Dividing range more than in the Alps. It is rarely observed in the northern half of the colony, though forming so prominent a feature in the southern half.

Basalt was an active intruder in the palæozoic and coal periods, and in subsequent times. Much of it is dolerite, or *bluestone*, the esteemed building stone of the colony. There is a black basalt, a greenish black, and a slaty basalt. Greenstone or diorite is uncommon.

According to Mr. Smyth, the Melbourne basalt is from two eruptions, a quartz gravel bed existing between them; that of Emerald Hill is much decomposed; while Ballarat received four successive floods, beneath which the *deep leads* of gold are discovered. In several places rivers, as the Yarra and the Leigh, divide the basaltic country from the slate one.

The basalt falls in rivers are often romantic features, especially in the Wannon, the Campaspie, the Loddon, the Hopkins, the Werribee, &c. These falls of prismatic basalt are much admired.

The trachyte and some of the basalt have issued from fissures, and welled up from beneath. But in the majority of cases the basalt can be traced to some point of eruption, which may have been submarine or subaërial. Volcanic caves and craters are very abundant on the south and south-west of the colony, though not unfrequent along the whole extent of the Dividing range. They are very rarely seen near the Alps or the Grampians. In the form of mammeloid hills, they are very numerous to the west and north-west of Melbourne.

The volcanoes of Victoria have discharged basalt, lava, scoria, cinders, mud, and ashes. There are no craters known in Gipps Land, and little or no lava and ashes in eastern Victoria. On the Murray side of the Alps these vents are very rare. But along the Dividing range, and especially in the neighbourhood of Ballarat, extinct volcanoes may be counted by the score in a view from one eminence.

Rising from the basaltic floor of the plains, some large extinct cones are to be distinguished. Dozens of them are passed on the way from Melbourne to the west border. Some of them are nearly closed at the summit, and others form a rim of miles in extent. The craters are sometimes filled with water, and are from a few feet to hundreds of feet in depth.

Among the prominent extinct volcanoes may be mentioned Napier, 1,440 feet high, with a crater 450 feet

VICTORIA.

Good building stone.

Successive flows of basalt.

Volcanic west.

Products of craters.

Extinct volcanoes.

Height of cones.

VICTORIA.

diameter ; Elephant, 680 feet above the plain ; Porndon, the cinder-cone, 500 ; Shadwell, 670. Some craters, as Buninyong, Franklin, Warrenheip, &c., are about 2,000 feet above the sea.

Tower Hill
crater 7
miles
round.

Mount Noorat crater is 230 feet deep ; Basin Banks lake, 300 feet ; Franklin, 250 ; Hamilton, 100 ; Leura, 300 ; Keilambete, 200 ; and Purrumbete, 150. Some have a diameter of several hundreds of feet. Tower Hill crater boundary is six or seven miles round.

Lakes once
craters.

A number of the western lakes were formerly craters ; such as Wangoon, Elingamite, Terang, Keilambete, Purrumbete, &c. Many of the craters, judging by the ash of their banks, were in full activity during the Miocene period ; though not a few were sending forth flame and smoke during the post-Pliocene days.

Volcanic
ash.

The ash or tufa deposits are most extensive in the south-west. The wombat burrows in them for even a hundred feet. At the Warriors, beneath Mount Leura, around Tower Hill, and near the various crater-form lakes, a depth of from 50 to 150 feet of ash may be sometimes known. When consolidated, as near Warrnambool, a building stone is produced. On the Lawrence rocks, off Portland, the volcanic conglomerate is covered with the guano of sea birds.

Stony rises.

The Stony Rises and Barriers to the south-west, and east of Lake Colac, are singular monuments of basalt or lava, forming ridges often many yards in height, a labyrinth of stone work. Caverns of considerable extent are common in the rock of this district, being made by confined gases while the igneous element was in a state of semi-fusion. Grass has been found under a bed of ashes near Warrnambool.

Fossils.

The Fossils of Victoria, though unequal in interest to those of Great Britain,—the geological epitome of the world,—illustrate a past not much dissimilar to what has been revealed by the ancient life of Europe.

Like those
of Europe.

The Palæozoic forms have been mentioned in the Geology of New South Wales. Above sixty genera have been distinguished in the Silurian formation of Victoria. Graptolites are not uncommon, with the Orthoceras, Stenopora, Lingula, &c. The Graptolites and Trilobites are like those of Europe, and the Encrinites as in Canada. Mr. Selwyn noticed forms so new as to require new genera to describe them.

The labyrinthodon reptile of the colony was the *Bothriiceps Australis*; whose teeth, one eighth of an inch long, conical and sharp, were numerously set in a head curiously sculptured like that of the crocodile.

VICTORIA.

Labyrinthodon.

In a cave near Mount Macedon have been dug out the bones of the devil and tiger, now living only in Tasmania. Along with the devil were found the remains of the dingo, yet the wild, aboriginal dog of Australia. The cave is now 1,000 feet above the sea level. A gigantic sort of kangaroo was extracted from the earth floor of a cave near Cape Schanck. A dingo was recovered from under a bed of volcanic ash at Warrnambool.

Tiger and
devil once
in Victoria.
Dingo a
native dog.

The *Thylacoleo carnifex*, the butcher pouched lion, was first discovered near the shores of a western lake, according to the prediction of Dr. Owen, that a marsupial lion was probably living in the age of monster herbivorous marsupials.

Marsupial
lion.

A Polyzoa bed extends for six miles, with a thickness of thirty feet, on the eastern coast of Cape Otway. The *Glossopteris* abounds in the Cape Patterson coal, the *Lepidodendron* in the coal of the Avon river of Gipps Land, and the *Zamia* at Cape Otway. The Geelong limestone has the *Pecten*, *Echinus*, and *Belemnite*. A gigantic kangaroo was found in the pliocene limestone of Port Phillip Bay. The present vegetation of the colony resembles that of the Eocene period in Britain.

Coal plants.

The miocene plant beds of Bacchus Marsh have no *Myrtacea*, so common now.

Gigantic
kangaroo.

The Diprotodon was formerly an inhabitant of the country. Its remains are seen in pliocene deposits of Lake Colac and other places. Its teeth were well adapted to the mastication of gum leaves. It was a slow-moving beast, the size of a hippopotamus. The marsupial character was first made clear by the bending of the angle of the jaw. With the face of a kangaroo, it had the teeth of a tapir.

Existing
plants like
British
Eocene.The Dipro-
todon de-
scribed.

Some bone deposits have been discovered near lake Corangamite, and fruits by Smythes creek.

Opinions differ as to the period of gold's first appearance in the auriferous quartz veins. Some, as two leading geologists of Melbourne, contended for the tertiary age of its production. Mr. Brough Smyth would have it several periods. The Rev. W. B. Clarke, of

Age of
gold.

VICTORIA.

Sydney, claims a higher antiquity for the precious metal. The Rev. Julian T. Woods traces its origin to diorite, and believes it passed by slow infiltration from secondary rocks to the quartz. It has been recognized in the calc-spar of reefs.

Further notice of gold, with a reference to other mineral products of the colony, will be found in the chapter of 'Mining in Victoria.'

GOVERNMENT.

Colony founded against will of the state.

Port Phillip Association.

Arbitrator elected, June 1, 1836.

Commandant, Oct. 1, 1836.

Government.

The settlement of Victoria was an irregular one. Different from every other dependency of Great Britain, this was established not only without the aid or sanction of the State, but positively in defiance of its commands.

In 1826 Messrs. Batman and Gellibrand asked the permission of the Governor of New South Wales to form a settlement on the Port Phillip shore. They were refused that liberty. In 1833, however, the Henty family quietly passed over from Van Diemen's Land to Portland Bay, where sheep were depastured, and a whaling station was formed.

When John Batman's Port Phillip Association carried their flocks over to the sites of Melbourne and Geelong, the people were warned off as trespassers. But as gathering numbers arrived from the other colonies, and as occasions of dispute necessarily took place, a form of government was decided on. A meeting of the inhabitants in Batman's house, on Batman's Hill, elected Mr. Simpson on June 1, 1836, to act as arbitrator. Mr. Steward, J.P., of Goulburn, presided at that meeting.

The report of Mr. Steward induced the Sydney authorities to make the best of affairs at Port Phillip, accepting the situation, and taking the intruders as citizens. On October 1, 1836, Captain Lonsdale came in H.M.S. 'Rattlesnake,' Captain Hobson, commander, to be Commandant of the infant colony. The same title was given to other officers, in the olden times, acting under the governor; as, at Newcastle, Port Macquarie, Moreton Bay, Launceston, Norfolk Island, Port Arthur, Macquarie Harbour, &c.

The commandant of Port Phillip, finding many people camping with Messrs. Batman and Fawkner, fixed upon

the Yarra-Yarra Settlement as his head-quarters. There he placed his little staff of constables, and custom-house officer and surveyors.

Governor Bourke, after a visit to Port Phillip, and proclaiming the town of Melbourne on May 19, 1837, was so satisfied of the progress there, that he despatched Mr. Latrobe as Superintendent of the province of Port Phillip. That gentleman took possession of his office October 1, 1839. The business of government was not extensive, since the supply of stationery sent down from Sydney, in 1838 for the clerks, amounted to a quire of foolscap, a bundle of quills, a box of wafers, and a hundred yards of red tape.

After the wonderful immigration from Europe in 1839 and 1840, the colonists began to speak of governing themselves, especially as the large customs' revenue at the port of Melbourne was expended, it was said, in Sydney, and not for the benefit of the southern province. Hence arose the demand for 'Separation' from New South Wales.

When permitted to send a few members to the partly nominee Council held in Sydney, one of their representatives, the well-known Rev. Dr. Lang, warmly contended for separation. As the Port Phillipians were unsuccessful, and saw no prospect of home rule, they declared their small share of government a farce, and derisively elected Earl Grey as their representative.

The struggle terminated in the victory of Port Phillip, which, upon July 1, 1850, was proclaimed the independent colony of Victoria, and the superintendent became Governor Latrobe.

Still the Government was a close one. Only two-thirds of the members of the Council were elective, the rest being nominated by the ruling powers. Melbourne, nevertheless, had a municipality in 1842.

The limited nature of the franchise, and the general unprogressive character of the Government, excited great dissatisfaction after the gold discovery. The diggers, especially, were indignant at the rough manner in which they were hunted for their monthly licenses. The feeling culminated in the Ballarat Rebellion of December, 1854.

Although the rising was suppressed by soldiery, the

VICTORIA.

Superintendent La-trope, Oct. 1, 1839.

Separation cry.

Earl Grey elected member for Pt. Phillip.

Port Phillip, independent 1850.

Demand for more freedom.

Ballarat rebellion.

VICTORIA.

colonists were aroused, and a determined effort was put forth, with the vigorous aid of the Press, to obtain responsible government.

Responsible government, 1855.

The Melbourne Parliament, like the other legislative bodies of Australia, being required by the Home Government to suggest a suitable form of rule adapted to the circumstances of the colony, forwarded an expression of public opinion. The result was that all the Australian settlements were emancipated from nomination, and allowed by the Queen in Council to be governed under a responsible ministry.

The new constitution was proclaimed November 23, 1855.

Victorian constitution the more democratic.

In this it was apparent that the Melbourne men got more freedom than the Sydney ones, because they had demanded more. Unlike the Upper House of the old colony, the Legislative Council of Victoria, as well as the Legislative Assembly, became wholly elective by the people. In the New South Wales constitution, it was stated of the colony that it 'is dependent on the United Kingdom.' That submissive phrase does not occur in the Victoria preamble. The president of the Council was to be appointed by his Excellency in Sydney, but elected by the members themselves in Melbourne.

There was so much new blood from Britain in the newer colony, and so much more energetic resolve to have British rights, that a greater advance was demanded, and a more liberal government was obtained. Among other changes was that of abrogating the property qualification clause for members in the Assembly.

Legislative Council.

As those who voted for the Legislative Council members were required to be freeholders or tenants of 100*l.* a year, there were about six times the number of electors for the upper house as for the lower one. The Council was for ten years, six persons going out every two years. The candidate for office, unlike that for the Assembly, must possess a freehold worth 5,000*l.* The Legislative Council consists of thirty persons, chosen in the six provinces of the Central, North-eastern, North-western, Eastern, Western, and Southern.

Legislative Assembly.

The present Legislative Assembly has eighty-six members, selected from fifty-five electoral districts, for three years. Victoria, in proportion to its population,

has five times as many members as are returned to the English Parliament. With a registration fee of a shilling, any man, not previously convicted of felony, and being British-born or a naturalised subject, may become an elector for the Assembly. All elections are decided by ballot. There were, in 1879, 31,441 electors on the rolls for the Legislative Council, and 176,022 for the Legislative Assembly.

VICTORIA.

Qualification for an elector.

Electors.

The Victorian government is, therefore, decidedly democratic. The principle is that of '*for* the people, *by* the people.' And it is generally admitted that, with occasional hasty policy, the country has been well and vigorously governed. The laws are intelligently respected. The educated and property-accumulating working classes of Victoria have exhibited a conservative impulse, not to be expected from an ignorant and a poverty-stricken populace as in parts of Europe.

Working classes truly conservative.

The revenue of the country has fluctuated considerably. During the early years it was of moderate amount, averaging about 4*l.* per head. In 1852, the year of the rush of diggers, the revenue suddenly rose to 12*l.* per head; and the following year, to 16*l.* per head.

Revenue.

Calmer times came. In 1855 the revenue was but 2,728,656*l.*, or 8*l.* per head. From that time, as population increased, and excessive importations gradually ceased, the revenue descended to 7*l.*, 6*l.*, and 5*l.* per head. The 5*l.* average of 1864 realised 2,955,338*l.* The taxes for 1878 were 1*l.* 19*s.* 10*d.* per head.

Personal taxes 1*l.* 19*s.* 10*d.*

The year ending on June 30, 1879, gave a revenue of 4,516,418*l.*; or about 5*l.* 4*s.* 10*d.* per head. The territorial revenue from the Crown lands amounted to 1,046,414*l.* in 1877, being 26,405*l.* over that for 1876. The revenue for the year ending December 31st, 1873, was 3,902,024*l.*, and expenditure, 3,659,533*l.* The expenditure is different from that at home. There is not the paying of a third of the income as interest upon debts incurred by war; though interest is willingly paid upon loans contracted for useful and reproductive public works. But there is an *extraordinary* as well as *ordinary* expenditure. As this presents an important difference in the system of government between Europe and the Colonies, the following explanation, from the

Revenue 5*l.* 2*s.* 10*d.*
per head.

Expenditure differs from the English one.

Ordinary and extraordinary government expenditure.

VICTORIA.

report of the Commissioners inquiring into the state of the Civil Service in Victoria, will be of interest.

'It is a necessary incident of the imperfect stage of political development that pertains to a very new country, that the Government is obliged to undertake many functions from which at a more advanced period of the country's growth it is relieved. In addition to the ordinary duties of government, the Government of this country is compelled to conduct the business of a great landowner—to survey, to lease, and to sell its property, its town lots, its country lands, its pastures, and its wines; to construct and maintain roads and bridges, and other works of public utility; to form railways and electric telegraphs; assist municipalities, road boards, mining boards, and charitable institutions; to establish and supervise lighthouses, lunatic asylums, pounds, and cemeteries, and to do many other acts which in older countries, possessing similar institutions, are effected either through private enterprise or through local exertion.'

Thus, that Commission took the expenditure of 1859 as consisting of 1,188,801*l.* ordinary (or that common in other countries), and 2,394,797*l.* extraordinary, or twice as much as the ordinary.

The expenditure has, of course, kept pace with the revenue, and sometimes exceeded it. That in 1878-9, however, came to 4,944,966*l.* Customs gave 1,400,809*l.*; railways and waterworks, 1,396,683*l.*

Loans.

The loans before the new constitution were only two millions, borrowed for the Melbourne and Geelong waterworks. Heavy amounts were subsequently obtained to carry on the various railway works. In the year 1878 the debt in full was 17,022,064*l.*, for which there are substantial assets. Though the public works are remunerative, they would have become much more so, but for the fact that many of them were constructed at a time when labour was at almost a fabulous rate in Victoria. The railways cost to 1878, 16,677,323*l.*

Public debt
for public
works.

The stability of affairs in Victoria is evidenced by the ability of Government to borrow at par at four per cent.

Municipal
system.

Local government in the colony owes much to the able Sir Andrew Clarke, of the Engineers, formerly the Surveyor-General of Victoria, who may be justly

called the second founder of the municipal system there. The municipal income, 1878, was 639,428L.

At the end of 1871 there were sixty-four corporate towns and boroughs, containing within their municipal limits about one-half the population. A borough must not have an area of more than nine square miles.

Outside of these boroughs in 1878 were 114 Shires, with their councils, now including Road districts, which enclose the other moiety of the population. A road district is not more than 40 square miles, and a shire one hundred. Shires were formed in 1863.

These are empowered to levy rates, and administer the local affairs relative to roads and other improvements. They are the outward exponents of a very progressive state of things. No colony in the empire can boast of such good means of communication as now exist in Victoria, through such local agencies.

Population.

Under the head of 'Agriculture,' the increase of the population of the colony may be noted from 1838. Mr. Henry Heylin Hayter, Government Statist, of Victoria, has prepared valuable statistical tables of the colony from time to time.

In June, 1836, there were 224 persons, of whom 186 were males. The year after, the number rose to 1,264, including 280 females. In the first thirty years of its existence, Victoria grew to a population of 636,982. On December 31, 1878, the number was estimated 879,386.

While New South Wales took eighty years to reach half a million, Victoria gained that amount in twenty-two years. At the end of 1872 there were 770,727 people; 70,428 were on the gold fields; 374,000 were in towns.

The census of April, 1871, gave 712,263 white persons, 382,367 males, and 329,896 females. There were also 1,330 aborigines, 784 males and 546 females; with 17,935 Chinese, only 36 of whom were females.

The female population in June, 1836, was 26·65 to 100 males; in 1841, 41·87; in 1846, 62·88; in 1851, 67·40; in 1854, 51·90; in 1857, 55·39; in 1861, 64·41; and in 1872, 83·5. On December 31, 1878, there were 478,316 males and 401,126 females.

The most settled places had in 1871 the highest per-

VICTORIA.

Shires and road districts.

Excellent roads.

POPULATION.

Progress from 1836.

Males and females.

Chinese population.

Proportion of females.

VICTORIA.

More females than males in places.

Births.

centage of females; as Bourke County, 97·07, and Grant County, 92·80. The Murray District had but 63·58, and Dargo County, 36·32. Caulfieldshire, near Melbourne, had 110 females to 100 males.

The population is variously distributed, even in the counties; for, while Millewa had but ·03 to the square mile, Bourke had 136·47, or 4,500 times as many.

The *births* have changed their average since 1865, when they were 42·04 in the thousand of population, coming gradually down to 36·89 for 1871; but of 10,950 births on the Gold Fields, 250 were illegitimate, or 1 in 43; of 6,225 in the rural parts, 81, or 1 in 77; of 1,917 on the coast, 35, or 1 in 54; but of 6,948 in Melbourne, 321, or 1 in 21. In two northern capitals of Europe the proportion has been 1 in 2. Victoria, in this respect, ranks as more moral than Great Britain. In 1872, of 27,361 births, 1 in 33 only was illegitimate. In proportion to the whole population, such would be 1 in 948. The births in 1878 were 26,581, or 30·59 to 1,000.

Marriages.

The *marriage ratio* has undergone a change in ten years. In 1860 it stood at 9·07; in 1865, 7·29; in 1868, 6·99; and in 1872, 6·30, being 4,791 in number. In 1878, 5,092 were married, being 5·86 in 1,000.

In 1871 the unmarried males were 278,103, and females, 204,838. The married males were 111,182, and females, 111,315. The widowers were 9,818, and the widows, 13,683.

Under 14 years of age, the sexes were nearly equal, being 147,569 males, and 145,496 females. Above 80 years there were 149 married men, and 41 married women; 180 were widowers, and 237 were widows. Under age there were 96 husbands and 1,254 wives. Of those married that year, 3,735 were bachelors to spinsters, 371 of bachelors to widows, 353 of widowers to spinsters, and 234 of widowers to widows.

Deaths.

The *deaths*, during the year 1878, were 12,702.

The proportion to 1,000 of population was, in 1860, 22·36. Since then it has fluctuated between 19·37, and the low rate for 1871, 13·43. The colony, never unhealthy, had been for the six years previously gradually becoming less subject to disease; rated 14½ in 1878.

Colony becoming more healthy.

Improvements in the style of living, the character of buildings, the supply of water in towns, the drainage,

and, above all, the moral habits of the people, have made this difference in mortality.

VICTORIA.

The climatic influences have certainly been favourable to health and longevity. It has been often remarked that old folks get a new lease of their lives by removal to Victoria. Although, without doubt, that colony, exhibits more than any other the supposed American characteristics of indefatigable energy, there is by no means the same reckless indifference to the laws of health as upon the Western Continent.

The sallow faces, the ague and fever-worn frames, the sickly women, the frail children, the nervous men, the premature old age, meeting the eye of travellers in both Eastern and Western America, *are not apparent* in the streets of Melbourne, Geelong, and Ballarat.

On the contrary, rosy faces, rotund forms, bright eyes, and hearty laughter are more common there than in the cities of Europe. Circumstances are easier, the climate engenders hopefulness, and there is a striking absence of morbid care in business.

Malformations are far less frequent there than even in Great Britain. Thus, deaf mutes, who are as 1 in 1,738 in England, and 1 in 206 in some parts of Switzerland, are but as 1 in 9,000 in Victoria.

Diseases incident to the place may be supposed dysentery, diarrhoea, and brain affections. But the medical reader will judge from the subjoined report of causes of death in 1878.

The classification is this: Miasmatic diseases, 1,513 males, and 1,545 females; enthetic, 24 males, and 10 females; dietetic, 140 males, and 86 females; parasitic, 35 males, and 38 females; diathetic, 237 males, 186 females; tubercular, 774 males, and 631 females; nervous, 873 males, and 594 females; circulatory organs, 457 males, and 267 females; urinary, 185 males, and 81 females; respiratory, 859 males, and 539 females; generative, 3 males, and 23 females; digestive, 534 males, and 471 females; locomotive system, 17 males, and 11 females; integumentary, 17 males, and 11 females; developmental, 248 males, and 221 females; nutrition, 389 males, and 311 females; accident, 585 males, and 172 females; homicide, 12 males, and 7 females; suicide, 70 males, and 17 females; execution, 0. From old age there died 189 males, and 148 females.

People
more
healthy
than in
America.

Few mal-
formations.

Diseases.

Statistics
of fatal
diseases.

VICTORIA.

Diseases of
males and
females.

Death of
children.

No small-
pox or hy-
drophobia.

Proportion
of diseases.

Variation
of diseases
in different
years.

Chinese
suffer more
than Euro-
peans.

Among the particular affections the following may be selected, as showing differences with the sexes: sun-stroke, 16 males, 7 females; bite of snake, 3 males; liver, 154 and 118; pneumonia, 418 and 211; heart, 362 and 211; brain, 172 and 120; cancer, 169 and 160; apoplexy, 148 and 126; paralysis, 125 and 55; phthisis, 603 and 472; gout, 9 and 9; scrofula, 35 and 20; delirium tremens, 17 and 5; diphtheria, 159 and 200; dysentery, 157 and 97; diarrhoea, 524 and 429; ague, 4 and 2; rheumatism, 46 and 33; asthma, 29 and 13.

During ten years, from 1855 to 1865, it was found that while one-third of the deaths were in children not one year old, one-third of the zymotic diseases occurred with those of that age, and two-thirds of the developmental. One-eighth of all diseases arose from dysentery and diarrhoea in those ten years; in 1871, owing to improved conditions, they formed but one-fourteenth of the cases.

Diphtheria was not known till 1858, when there was one death in 1,000 from it. Colonial fever is a sort of typhoid. Typhus and remittent fevers are very uncommon. Small-pox and hydrophobia are unknown. There is less dropsy, but a singular increase of cancer lately; for, in 1854, only three deaths came from cancer.

Nervous diseases formed in the ten years one-tenth of the cases; respirative, one-twelfth; digestive, one-sixteenth; atrophy and debility in children, one-twelfth; circulation, one twenty-fifth; and developmental, as teething, old age, &c., one-thirtieth. Fatal cases of child birth were as one in two hundred and forty births.

In some years diseases have been more fatal than in others. Thus, with dysentery, 944 died in 1860, and 220 in 1868; cancer, 58 in 1860, and 184 in 1869; brain, 407 in 1863, 166 in 1868; measles, 7 in 1864, and 630 in 1867; diphtheria, 871 in 1861, and 215 in 1865; asthma, 12 in 1864, and 30 in 1869; liver, 87 in 1861, and 200 in 1869; phthisis, 779 in 1867, 1,124 in 1878.

The Chinese are more subject to disease than Europeans in Victoria. Fevers and dropsy are more fatal, but phthisis and dysentery less dangerous. There are, relatively, fewer accidents among them, but more suicides.

The Chinese have favoured Victoria beyond any other

colony. Though now not above 13,000, they were once 45,000. By an Act of the Legislature, each Mongolian arrival paid 10*l.* if coming by sea, and 4*l.* if overland ; this was in addition to 1*l.* per quarter for settlement. They are chiefly employed in mining and market-gardening. There are some wealthy and highly respectable Chinese merchants in the colony, two of whom are directors of banks.

VICTORIA.

The Chinese.

The *Aborigines* of the colony are rapidly passing away. Lords of the soil in 1835, John Batman sought the right of pasturage from them by a promise of annual tribute. The British Government never acknowledged this treaty, nor noticed the presence of the natives when taking the country.

Victorian Aborigines.

Protectors were subsequently appointed, to protect the blacks from the lawless whites, and the whites from savage blacks. They were unnecessary when the Europeans grew the many, and the aborigines the few. Wars were not so destructive as the drink and disease, brought by the strangers to the tribes. As many as several thousand were gathered together at a grand corrobory in 1844. By the returns of 1871, there were but 1,300 in the colony. Another estimate recently made them but 800. In the county of Dalhousie, with 12,000 inhabitants, there were but three men and no women of the natives; though in Karkarooc, with 221 Europeans, there were 83 male and 45 female aborigines.

A few young men are employed cattle-driving ; but, with every encouragement, none settle on farms or engage in trade. Several efforts to Christianise them have eventually proved failures. The Moravian mission in Gipps Land has, for the present, gratifying rewards of labour. Meanwhile, the race is descending almost childless to the grave.

Christian missions.

Education and Religion.

EDUCA-TION.

Unquestionably, Victoria has the proud distinction of being the first colony in the empire for devotion to education. In none other are schools so well supported by the State, and in so high a condition of efficiency. Whatever may be said concerning this most democratic of English Governments, no one can deny its real and

VICTORIA.

liberality towards public institutions, and such institutions as tend to educate and refine the working-classes.

The progress in this respect since the inauguration of responsible rule, in 1855, is a gratifying tribute to the generosity and intelligence of the British Parliament granting that political favour, and is the best evidence that their confidence in the colonists was not misplaced.

The chaos produced by the gold fever has yielded there to order and social development.

First system, the Denominational.

Like Queensland, also once a province of New South Wales, Victoria, as Port Phillip District, was endowed with schools under the Denominational system of the parent colony.

These schools were prominently connected with those denominations which then shared in the *pro rata* State aid to religion, namely, the Church of England, the Presbyterian, the Wesleyan, and the Roman Catholic. A Denominational School Board, in which these various bodies had representatives, administered the funds. Assistance was granted to buildings, as well as the payment of teachers' salaries.

In 1848, when the colony was pursuing the even tenor of its way, the Board had 27 schools, with 2,396 pupils.

Complaint against the system.

The same dissatisfaction with the system was expressed at Melbourne as at Sydney. It was alleged that Government, while supporting education, was in reality upholding denominationalism; and, in another form, contributing to the funds of antagonistic religionists, as most school-rooms were places of worship.

National School Board.

The National School Board, therefore, was brought into existence in 1851. The avowed intention was to receive children of all sects, give them a good secular instruction, and afford facilities in class-rooms, after school hours, for ministers to give dogmatic lessons to those belonging to their respective communions. It was found, however, that scarcely any of the clergy embraced the offer; and so the so-called National Schools became really secular ones.

As a specific grant was made to the National Board, it could be both aggressive and progressive in the establish-

ment of schools. The rivalry of the two Boards is thus shown :—

VICTORIA

	Denominational Schools	Denominational Pupils	National Schools	National Pupils
1851	74	3,016	6	261
1853	125	5,788	27	908
1857	439	17,856	93	4,475
1861	484	24,224	181	9,713

The country complained of the waste of public money, and an amalgamation of the two Boards took place in 1862.

Both Boards united.

The new Board of Education, appointed by the Governor, consists of five members, no two of whom are of the same denomination.

A discretionary power was exercised in the closing of small and inefficient schools. While money aid was granted to all schools, especial favour was shown to such as were placed under the Board as *vested* schools. A number of denominational school-rooms were thus, for private or public reasons, made over to the State.

Vested schools favoured.

If, then, in a certain neighbourhood, there existed an excess of schools, the *vested* ones had the prior right to public support.

A marked success has attended the change of *régime*. The percentage of regular attendants at school in proportion to the population has since been raised nearly half as much again. The improvement of the teaching has kept pace with numerical progress. The schools in Victoria are provided with an efficient staff of instructors, an ample supply of the best apparatus, and no lack of encouragement from the State.

Efficient education.

When the two Boards were amalgamated, the Church of England schools had 12,920 pupils; the Presbyterians, 6,090; the Wesleyans, 5,582; and the Roman Catholics, 9,716. Other denominations had schools, though generally casting in their influence with the National Schools, these having 10,512 children.

Since then the *vested* schools have increased 137 per cent., while the *non-vested* have decreased 15 per cent. Aid to buildings is only given to the *vested*.

Increase of schools.

VICTORIA.

Secular instruction and free religious teaching.

All instruction now free.

Rural and half-time schools.

Pupils.

Average attendance.

One in 4 taught.

Colleges 1879.

But the utmost liberality exists in the conduct of the schools. All of them must submit to two rules,—admit children of any denomination, and devote four hours in each day to secular instruction only. After those hours, children of the particular religious sect may remain for dogmatic teaching, while others retire.

The practical effect is to make all schools, whatever their name, secular ones; there seldom being any lessons beyond the two hours of the forenoon, and two in the afternoon, unless it be that the elder scholars have additional instruction after the departure of the rest.

The latest change is an important one. Last year the doors of all State-supported schools were thrown open to all comers without fee or charge.

Church bodies declining to rent their buildings to Government receive less aid to their schools. As public schools are completed, aid is withdrawn from others. School buildings are available for religious services after school hours. Boards of Advice are elected by ratepayers.

Rural schools were added in 1869, and *Half-time schools* the year after. The former were sanctioned in sparsely populated districts, where an average of 15 pupils could be secured. The latter provided for another difficulty. In 1873 there were over 60 rural schools.

The Public schools on January 1, 1879, were 1,664. The number of children educated was 189,455, being about one in less than five of the population.

The average attendance is very high, amounting to 135 days in the year—that of England being 120; Ireland, 80; and the United States, 106. Two out of three of the population between 5 and 15 are at school; while others are there who are below the first or beyond the last age. Corporal punishment for females is not allowed.

In addition to the 189,455 in the Public schools, there were, at the beginning of 1879, 37,582 in private schools, and 1,116 in Industrial ones, and the Reformatories. The total, 228,153, would give an average of 1 in 4 of the population, equal, perhaps, to what can be seen in any other community.

Of the higher class schools in Melbourne are the Scotch College, with 342 pupils in 1878; Church of England Grammar School, 226; Wesley College, 216; St. Patrick's College, 75.

In the Industrial schools for neglected children, board and lodging are found. The reformatory schools are for those children convicted of crime, or placed there for wholesome restraint. A large one for boys is on board of a vessel in Port Phillip Bay.

The Board of Education expended during 1878 the sum of 594,147*l.* A Minister of Education is president. The expenditure is now at the rate of nearly half a million a year; or, relatively, about twenty times as much as that granted by the British Parliament for schools.

The cost per child varied with the character of the school, and consisted of local and Government contribution. In *non-vested* schools the average annual cost was 14*s.* 1*½d.* local, 23*s.* 4*½d.* Government, or 1*l.* 17*s.* 6*d.* per head. The rates for *vested* schools were 17*s.* 1*½d.* local, 26*s.* 1*½d.* Government aid, or 2*l.* 3*s.* 3*d.* per head.

The local contributions for schools in 1871 were 9,940*l.*; and toward building expenses, 12,443*l.*

The teachers formerly derived their income from a fixed State salary, their proportion of the pupils' fees, and the bonus known as *result* money. Since the establishment of free education, the fees have been compensated for by increased salary.

They are a well-appointed class of persons, under a strict system of inspection, and are fairly remunerated and respected.

Early in 1879 there were 1,824 male instructors, and 2,082 female. Of 446 unclassed female teachers, 414 only occupied the position of work mistresses, requiring examination in needlework. These numbers relate to 1872, as classification is now complete.

In the first-class honours were 7 masters and 3 mistresses; and in the second-class honours, 68 and 20. In the first division of competency there were 319 masters and 91 mistresses; in the second division, 381 and 208. The salaries have been recently fixed on a numerical basis.

A teacher with less than 20 pupils has 80*l.* salary; with less than 100, 130*l.* An additional 10*l.* comes with each 25 extra up to 350 pupils; after which an increase of 50 is required for the additional 10*l.* The *Result* money, to be added, must not exceed one half the salary.

VICTORIA.

Industrial schools and reformatories.

Minister of education.

Annual school charge to the State of 600,000*l.*

Teachers' pay.

Examination of teachers, and pay with honours.

VICTORIA.

Normal schools.

Several instances have occurred in which the income of the teacher of a common school has exceeded 500*l.*

Several Normal Training Schools supply free education, board, and lodging, to male and female teachers. Teachers are engaged by the local committees of schools, subject to the Board's approval.

**Drawing and singing.
Pupil-teachers.**

Many Drawing-masters and Singing-masters are employed by the Board in the common schools. Of the 417 pupil-teachers, 34 were in 1872 in the highest or first class; 62 in the second; 97 in the third; and 224 in the fourth.

Aid to students.

As an incentive to study, the Government offer the successful pupils in common schools presentations to certain collegiate establishments, and to the University.

Denominational Colleges.

A large sum of money was apportioned some years ago by the State for the aid of higher schools in the leading denominations. The Scotch College of Melbourne ranks first for numbers. The Grammar School is attached to the Church of England. Wesley College is under Wesleyan control. St. Patrick's College is the Roman Catholic institution. All received State assistance toward their building fund, though not annual grants.

The University.

The University is an institution worthy of a colony so anxious for knowledge. Its formation in 1853 was the crowning of the educational edifice by the State. In addition to erecting the buildings required, the Government grants 11,000*l.* a year towards the current expenses, while fees produce about 7,000*l.*

Professors.

The professors have been men of high repute even in Europe. Some of them, notably Professor McCoy, the comparative anatomist and geologist, have identified themselves with other efforts to raise their fellow colonists. For the year ending December, 1878, 114 matriculated; some ladies passed with honours.

Public museum.

An admirable museum, open to the public, is attached to the University. It is perhaps not only the first in the British colonies, but equal to any one in the empire out of London. The room cost 8,500*l.*

The examinations are so well conducted, that the University degrees for arts, medicine, law, and music have a deserved reputation. Among the *ad eundem* graduates have been several of the Governors of the colony.

Various religious bodies have placed their colleges for young ministers in affiliation with the University.

The Victorian Legislature has aided in other ways the educational wants of the people. 110 mechanics' institutes and free libraries have been fostered. The public library of Melbourne has 100,000 volumes,

The mechanics are also benefited by classes for *technical instruction*. In no part of the English dominions, perhaps has so much solicitude been shown by the State for the interests of general education, and for the elevation of the tastes of the working community, by lectures in science and art, with access to technological and other museums.

The *Press* of Victoria, as of Australia and New Zealand generally, has exerted a highly educational influence. Excepting the United States, there is no other part of the world where the people are such newspaper readers.

The first Australian journal was issued March 5, 1803. It was known as the 'Sydney Gazette and New South Wales Advertiser.' The publication, under Government, was conducted by George Howe, the father of the Australian Press. The first number gave as *recent news* an account of a Woolwich fire on May 20, 1802.

The 'Sydney Morning Herald' commenced in 1831; and the 'Empire' in 1850.

The 'Derwent Star and Van Diemen's Land Intelligencer' started and ended in 1810. The 'Van Diemen's Land Gazette and General Advertiser' of 1814 lingered but a few months. Andrew Bent was assisted by Government to establish the 'Hobart Town Gazette and Southern Reporter' in 1816. This was but of two pages of foolscap till 1825. In 1826 it became, under independent control, the 'Gazette and Van Diemen's Land Advertiser.' Mr. Howe, son of the Sydney printer, originated the first 'Launceston Advertiser' in 1825.

The earliest Port Phillip paper was a manuscript one, by Mr. John Pascoe Fawkner, of Melbourne, on January 1, 1838. After a few copies by hand, some type was procured, and the 'Melbourne Advertiser' came out in four pages, two columns each, twelve inches long. But the paper was stopped because the conductor could not find two legal sureties for good behaviour.

VICTORIA.

Affiliated
colleges.
Free State
libraries.

Technical
education.

Techno-
logical
museums.

Press
influence.

First
Australian
Paper,
1803.

History of
the Press.

Sydney
papers.

Tasmanian
papers.

Port
Phillip
Press.

First paper
manu-
script.

VICTORIA.

The first legalised paper was the 'Port Phillip Gazette,' under Messrs. Arden and Strode. It appeared October 27, 1838. The next year Mr. Fawkner brought out the 'Advertiser,' though it was soon changed to the 'Patriot.'

'Melbourne Argus.'

But those early newspapers were little like the present 'Melbourne Argus' and 'Australasian,' which may be compared most satisfactorily with the best of the provincial papers of England. The 'Times' of July, 1873, said of the colonists 'They have a right to be proud of their newspapers.'

RELIGION.

RELIGION has not been lost sight of in the general progression of Victoria.

All sections of the Christian Church are represented there. Enjoying equal protection under the law, though receiving neither pay nor favour from the Government, they illustrate very little of that jealousy toward each other to be observed in communities with less religious freedom.

First Sunday service, 1837.

The first Sunday service in Melbourne was held by a Wesleyan minister, the Rev. Mr. Orton, beneath the She-Oaks of Batman's Hill, in April, 1837.

Early ministers.

A building in 1838 served for all denominations. The first minister was the Rev. J. Waterfield, an Independent. The Church of England had the first pastor in the Rev. John C. Grylls, who came from Sydney in 1838. A Wesleyan mission to the blacks was established in 1839. The Presbyterian clergyman, Mr. Forbes, arrived in 1839. The Rev. P. B. Geoghegan, afterwards Bishop of Adelaide, was the first Roman Catholic priest,—reaching Melbourne in 1839.

First Churches.

The early places of worship were raised with much difficulty in the primitive days of Victoria. The foundation stone of the first church of the Protestant Episcopalian was laid in October, 1839. The Presbyterians were content with a brick school-room, costing 400*l.* The chapel of the Independents was the first one built. The Wesleyans had a small brick-room in 1839.

Land for places of worship.

The Sydney Government, then ruling over the colony, granted land in every township to any religious denomination that would accept it. Not only, therefore, did the Roman Catholic and the leading Protestant bodies secure half-acre allotments, or more, but individual

ministers claimed and secured land for other communities they were supposed to represent.

At that period of colonial history, if a congregation raised 300*l.* towards a place of worship, the State contributed an equal sum. In like manner, if they guaranteed a certain amount for their ministers, the Treasury supplemented it. Though some persons then objected to State aid in the shape of cash, they were willing to accept grants of land for religious purposes.

The Government disclaimed any interference with religious bodies, while rendering them monetary aid. But while orthodox Protestants, Roman Catholics, and Unitarians drew upon the Treasury, Jews were denied the privilege, though an attempt was made to expunge the word 'Christian' from the statute.

The position of affairs was thus represented by that judicious historian of the colony, Mr. Westgarth, some seventeen years ago :—

'But as some will not receive the aid, and as Jews and others are excluded, an inequality thus arises which has long been the object of animadversion; while to many minds there is an incongruity in the whole case of this aid which seems entirely unchristian.'

By the conditions of the 53rd clause of the Constitution Act, conveying the charter of colonial liberty in 1855, it was expressly declared that 50,000*l.* a year must be set aside by the Melbourne Parliament in grants towards religion.

The incongruity of the State supporting contradictory and rival views excited ridicule and displeasure among the colonists, although no one denomination was strong enough to claim the whole sum for itself.

It was said that, as the numbers of ministers were constantly growing, the amount tendered to each out of the 50,000*l.* would be eventually so small as not to be worth acceptance. Without waiting for that period, the Legislature has abolished State aid to religion altogether.

The removal of the grant has called forth the generous rivalry of denominations, and deprived the niggardly of any ground to restrain their gifts.

A comparison of these periods may be of interest. The years 1851, 1857, and 1871 are thus selected as marking three different colonial epochs.

VICTORIA.

State support system.

No State interference.

No aid to Jews' Synagogues.

50,000*l.*
grant to religion.

No more State aid.

Effect of this.

Victoria.

State of denominations in 1851, '57 and '71.

In 1851 the Church of England claimed 37,433 ; the Presbyterians, 11,608 ; the Wesleyans, 4,988 ; other Protestants, 4,313 ; or a Protestant total of 58,342. The Roman Catholics numbered 18,014 ; the Jews, 304 ; and Pagans, exclusive of aborigines, 201.

In 1857 the Church of England had 159,808 ; the Presbyterians, 65,935 ; the Wesleyans, 20,395 ; the Independents, 10,858 ; the Baptists, 6,484 ; the Lutherans, 6,574 ; the Unitarians, 1,480 ; other unnamed Protestants made a total of 289,269. The Roman Catholics were 77,351, and the Jews 2,208.

In 1871 the census gave the Church of England 257,835 ; Presbyterians, 112,983 ; Methodists, 94,220 ; Independents, 18,191 ; Baptists, 16,311 ; Lutherans, 10,559 ; Unitarians, 1,016 ; other Protestants, 12,423 ; a total of 517,535 Protestants. The Roman Catholics were 170,620, and the Jews 3,571.

Increase of each in 20 years.

From 1851 to 1872 the Protestants increased in Victoria 887 per cent. ; the Roman Catholics, 947 ; and the Jews, 1,174 per cent. The Church of England had increased 672 per cent. ; the Presbyterians 973 ; and the Methodists, 1,888.

Increase from 1857 to 1872.

Between 1857 and 1872 the Protestants advanced 178 per cent. ; and the Roman Catholics, 220. The Church of England grew 157 ; the Presbyterians, 171 ; the Wesleyans, 460 ; the Independents, 166 ; the Baptists, 251 ; the Lutherans, 160 ; and the Jews, 160 per cent.

Other small sects.

Among the sects in Victoria, by census of 1871, may be mentioned 3,540 'Christians,' 1,432 Calvinists proper, 93 Moravians, 97 Mormons, 332 Greek Christians, 333 Society of Friends, 285 Israelites, with 278 Catholic and Apostolic church. At the census, 2,737 declared themselves of no denomination ; 2,150 of no religion ; while 9,965 objected to state their views at all. The Spiritualists of Melbourne engaged the large Masonic Hall for their Sunday services. The Pagan Chinese were 17,650 in 1871.

Church room in 1871 and 1878.

The church accommodation of the various bodies, in respect of numbers, was thus stated for 1871 and 1878 :—

		1871	1878
Wesleyans		92,900	129,070
Presbyterians		64,000	75,960
Church of England		59,676	71,341
Roman Catholic		57,760	89,466

		1871	1878	<u>VICTORIA.</u>
Independents . .	.	15,050	16,261	
Primitive Methodists . .	.	12,756	—	
Baptists . .	.	12,830	13,430	
Bible Christians . .	.	7,990	9,125	
Disciples . .	.	5,055	—	
United Methodists . .	.	5,500	—	
Lutherans . .	.	3,200	4,680	
Welsh Calvinists . .	.	1,600	—	
Christian Israelites . .	.	1,600	—	
Free Presbyterians . .	.	1,565	—	
Free Church of England . .	.	1,190	—	
Moravians . .	.	230	—	
Unitarians . .	.	200	—	
Catholic Apostolic . .	.	290	—	
Society of Friends . .	.	180	—	

The 1,557 Sunday Schools, with 116,142 pupils and ^{Sunday} 13,449 teachers, are well distributed in the colony. The ^{schools.} following table in order relates to the majority of these.

		Sunday Schools	Scholars
Wesleyans . .	.	489	31,524
Church of England . .	.	295	21,912
Presbyterians . .	.	326	27,046
Roman Catholic . .	.	229	18,114
Independents . .	.	59	5,873
Baptists . .	.	52	5,388
Primitive Methodists . .	.	62	3,956
Bible Christians . .	.	53	3,070
Disciples . .	.	17	926
Lutherans . .	.	14	576

The church sittings for 1862 were 169,647; for 1867, Church increase greater than population. 271,753; for 1872, 346,861. While the population in the ten years increased half as much more, the accommodation in places of worship had more than doubled.

In 1851, before the gold time, the Protestants were 58,342, and the Roman Catholics 18,084. Of the former, 37,433 belonged to the Church of England, 11,608 to the Presbyterians, and 4,988 to the Wesleyans. There were then 304 Jews. A great change in the relation of the denominations has since taken place.

Religion before the gold days.

The moral progress of the colony has been singularly marked during the last few years. Temperance views have become more popular, and crime has been much diminished. In 1862 the committals for trials were 1,144; in 1864, 1,081; in 1867, 957; in 1869, 842; and in 1872, 688, or one half of what it would have been had the first rate been maintained.

Moral progress.

VICTORIA.

Crime.

Hospitals
and benevo-
lent institu-
tions.No poor
law.**PASTORAL.**

Of 764 commitments in 1878, there were 458 then convicted. Prison discipline is conducted there upon the best known systems of Europe. Great care is taken of the youthful criminal population in four well-conducted reformatories. There are five female refuges.

There are 33 hospitals, having about 2,130 beds. The five Benevolent asylums have 1,184 beds, and the Immigrants' Home has 439. There is also a hospital for sick children. The Deaf and Dumb Institution has 72 beds; the Blind, 97; and the Ear and Eye Infirmary, 22. The five lunatic asylums have 2,816 beds. The seven orphan schools have 981. This was in 1878.

In addition to 37 benevolent societies, supported by voluntary contributions, friendly societies of every kind are in vigorous existence. No poor law is yet required for Victoria; and, with the rate of recent increase in sober habits, there will soon be fewer applicants for benevolent asylums, and fewer admissions into hospitals, lunatic asylums, and gaols.

Pastoral.

Victoria was formerly, above all the other colonies of the Empire, the Squatting one.

It was the only colony, perhaps, ever established for pastoral purposes only. It began not in town life, as all others had done, and not even in farm life, but in sheep and cattle feeding. It rose to be the first of pastoral regions, and continued until after the gold discovery to be the land of squatterdom.

The grass is so succulent and abundant, and the climate so adapted to animals, that no equal area of wild country in the world, perhaps, can feed the same amount of stock.

Although the country is no longer, politically, the sovereignty of the squatter, and although by recent land-laws he does not enjoy his former privileges, still his position is an enviable one. If he pays more rent, and has less security of tenure, he gets better prices, and has higher civilised advantages than formerly.

But Victorian squatting is no occupation for the man of small capital. Many of the present Lords of the Waste began with a flock of 500. It would be impracticable for one now to commence there in so humble

Squatters
pros-
perous.Large
capital
required.

a manner. To obtain a decent station a large sum of money is required. A moderate-sized station sold one year for 250,000*l.*

The princely residences of the wealthier squatters on their magnificent estates bear witness to the fortunes once made, and still maintained, by the pastoral interest in Victoria. As, since the recent land-laws, leases became more difficult, the land was purchased by the lessees, and scores of thousands of acres may now be seen enclosed around the noble mansion of a sheepmaster.

And yet few occupations have been subject to such rapid reverses of fortune. A large proportion of the original settlers were ruined, and their stations sold for five per cent. upon the purchase-money. Droughts and floods have desolated flocks and herds. Fluctuations in wool prices have been disheartening to the growers. Life in the bush was not a rosy one of old.

But that which the pastoral tenants of the Crown thought to be the most trying calamity—the gold discovery—in drawing off their labour, scattering their flocks and herds, and absorbing their lands, proved to be the great promoter of their prosperity.

The system is now changed in the conduct of the pastoral as of the agricultural interest. More capital is required to attain to success. More thoughtful management is called for. Land by being fenced in promotes better health for the stock, increases the percentage of births, and develops weight and character of wool. The wool shed is now quite different from the sort of aboriginal building which once served the purpose.

The high price paid for breeding animals was demanded by the new circumstances, and has proved a profitable investment. The machinery on stations was in 1878 valued at 77,434*l.* This included agricultural implements, wool hydraulic presses, sheep-washing machines, steam engines, &c.

Difficulties have been diminished by the march of civilisation. Station supplies are more easily obtained, and sales are more readily made, through improved means of communication. Animals are less troubled with disease, and less plagued by wild dogs or dingoes.

Sheep were first landed at Gellibrand's Point, now First flock. Williamstown, and at Point Henry, near Geelong. The

Vicissitudes of squatters.

Advantage of fenced-in land.

Improved stock.

Implements.

VICTORIA.

Port Phillip Association, under John Batman, landed 500 sheep from the 'Norval,' on October 26, 1835. Mr. Batman sold a small flock in 1838 to Captain Lonsdale at five guineas a head.

First overlander. The first Overlander with stock from the Sydney side was Mr. John Gardiner, in 1835. To stop the ravages of the wild dog, the settlers in 1836 offered a reward of 5*l.* for every animal caught or killed.

A colonial wit addressed the Melbourne paper of 1839 after the usual style of advertisement respecting stallions. He remarks of one, 'It can be traced to Alborak, the steed of the prophet Mahomet; which, being interpreted, meaneth, a little faster than lightning.'

Greater care is now perhaps taken in the selection and breeding of all kinds of stock in Victoria than in the other colonies. Llamas and alpacas have been introduced into Australia. The Acclimatisation Society of Melbourne has been of great service to the pastoral interest. The lambing for 1873 was 82 per cent.

Saltbush fattening. The saltbush of the dry Wimmera country fattens stock. A particular sort of sheep adapted to the place is raised there, and its staple of wool is the best to be grown in Wimmera. The same system of adaptation of breed to place is now being pursued in other parts, with decided benefit. In the Alpine country coarse wool can be produced in heavy fleeces. The proportion of wool to the animal is greater in Victoria than in the other Australian settlements, owing to superior pasture and climate.

Heaviest fleeces. The increase of animals since the foundation of the Colony in 1835 is presented with the accompanying statistics:—

Stock statistics.	Year	Horses	Cattle	Sheep	Pigs
	1836	75	155	41,332	
	1840	2,372	50,837	782,283	
	1845	9,289	231,662	1,792,527	3,986
	1850	21,219	378,806	6,032,783	9,260
	1855	33,430	534,113	4,577,872	20,666
	1860	76,536	722,332	5,780,896	61,259
	1865	121,051	621,337	8,835,380	75,869
	1870	167,220	721,096	10,761,887	130,946
	1871	209,025	776,727	10,477,976	180,109
	1879	210,105	1,184,843	9,379,276	177,373

Yet, in 1872, there were in Great Britain 5,624,994 cattle and 27,921,507 sheep.

The wetter western country is troubled with the foot-rot ; and certain parts of the flats of the Goulburn, &c., are unfavourable for the fluke. The Legislature does its best to arrest the progress of the scab.

The progress of the wool and tallow export, with the changing prices, is read in the following report of the same years. Victorian production :—

Year	Wool lbs	Wool £	Tallow £
1837	175,081	11,639	28
1840	941,816	67,902	953
1845	6,841,613	396,537	12,267
1850	18,091,207	826,190	132,863
1855	22,584,234	1,405,659	29,117
1860	24,273,910	2,025,066	18,269
1865	44,270,666	3,315,109	15,566
1870	52,123,451	8,205,106	358,863
1871	68,764,809	4,287,011	271,630
1878	73,839,839	4,330,628	103,879

Though the *runs* have diminished in number, they keep about the same relative area. In 1862 there were 1,249 runs on 37,023,093 acres. In 1878 there were 768 on 19,531,083 acres, yielding 122,142*l.* state revenue.

These are distributed in 18 pastoral districts : Ararat, Ballarat, Beechworth, Benalla, Castlemaine, Echuca, Gipps Land North, Gipps Land South, Gisborne, Grant, Melbourne, Omeo, Portland, Settled Districts, Swan Hill, Warrnambool, Wimmera East, and Wimmera West. Before 1851 there were but 5 districts, Gipps Land, Murray, Portland Bay, Western Port, and Wimmera.

The runs vary in size as they are removed from the chief resorts of population. Thus, the 32 runs of Melbourne pastoral district average about 12,400 acres each ; the 28 of Warrnambool, 7,000 ; and the 12 of Ballarat, 3,000. But the 105 runs of Benalla, and the 43 of Gipps Land North average 30,000 acres ; the 52 of Echuca, and the 142 of Wimmera West, 36,000 each ; and the 74 of Swan Hill District have 76,000 acres each.

But those are all upon Crown lands, and are leased. Besides, there are 469 stations on 1,690,317 acres of Purchased land.

VICTORIA.

Stock in Great Britain.
Diseases of sheep.

Wool and tallow rated.

Runs.

Pastoral districts.

Size of runs.

VICTORIA.

Labour on stations.

purchased land. The machinery and improvements in 1878 were valued at 1,850,712*l.* on stations only.

The number of hands employed on the stations proper would appear very small, according to the enormous annual value of the export of their produce. In March 1878 there were so engaged, on the 801 stations, 4,222 males and 1,266 females, 5,488 in all.

Horses boiled down.

Horses are so very cheap in the Colony, that many are boiled down merely for tallow. In 1871 there were 185,000 sheep boiled down, and 78,000 were converted into preserved meat. The consumption in the Colony was estimated at 180,000 in the year.

Meat-preserving.

The meat-preserving establishments are now less able to purchase Victorian sheep and cattle at prices that will enable them to gain a profit. By the Leoni process whole carcases can be preserved. The ice process is continued. The export of preserved meats in 1871 came to 355,161*l.* The trade began in 1866. In December 1878 there were 19 establishments for boiling down.

AGRICULTURE.

Squatters versus farmers.

Agriculture.

For a number of years two causes restricted the produce of the fields, the prevalence of squatting pursuits, and the small supply of surveyed lands for sale.

The splendid character of the pasturage of Port Phillip made it the favourite squatting region of Australia. The occupation of the country on leases from the Crown, for such purpose, necessarily hindered the purchase of land by would-be farmers.

So long as the main interest of the Colony was served by the sheepmaster and herdsman, little or no outcry against this monopoly arose. The townsfolk, it is true, depended for their flour and vegetables on the exports of neighbouring settlements; but, as the means for this purchase came from the country wool trade, little complaint was heard.

When, however, through the gold discovery, an altered social condition appeared, the evils of the old system were obvious, and their removal was loudly demanded.

A great influx of population brought more mouths to be fed by this imported food. It was declared to be absurd and monstrous that a country so admirably pro-

vided with good soil, should be so dependent upon neighbours for bread. Many persons, too, unwilling to work at the mines, or unable to find thereon remunerative employment, sought unavailingly for labour on the soil.

While, it was said, 700 persons, as squatters, monopolised the lands of the Colony, there was no chance for an immigrant farmer. An alteration of the law was necessary before broad acres could be offered for sale by the Government.

Demand for land.

So many difficulties were placed in the way by interested parties, that it was only after long and energetic agitation that the Unlocking of the Lands occurred. Even then, at first, the contemplating purchaser of a small homestead found little but poor plots offered for competition.

The remedy came. Land was cut up in more suitable blocks, and in more suitable farming areas. Men eagerly bought up allotments for fields, and cheap food was the happy result.

Cheap food by cheap land.

The disproportion between cultivation and population gradually ceased. Instead of there being, as in 1854, six persons for each acre under the plough, there were about as many acres as people in 1867; and since that date the tide has turned, as the acres under crop are more than the inhabitants.

In the first rush after farms, a large amount of cultivators were without previous experience, and farmed ignorantly and wastefully. A great interest having been created, education and training for it were then held as necessary, and found to be essential to success. Skill in farming has been wonderfully on the increase ever since.

Good and bad farmers.

For a long time capital seemed strange to the field. But when the agriculturist established himself in the Colony, the capitalist came to his aid. Loans, once yielded reluctantly at an interest of twenty per cent., were afterwards freely offered to the farmer at a great reduction upon that rate. Improvements were consequently entered upon with more vigour and ability, and a higher style of cultivation became practicable.

Farmers helped by the capitalists.

Upon this came the demand for better appliances. Progress of Machinery was required to compensate for the rate of agriculture.

VICTORIA.

Artificial manures and agricultural implements.

Effect of agricultural extension.

Old state of farming.

wages, and to hurry off the crop at harvest, not less than to put the soil into more productive condition.

The manure question arose as farming grew to be more of a science. In addition to care of home-made manures, guano was largely imported from Peru, or obtained from bird deposits nearer Australia.

Last of all came the manufacturer on the spot, to furnish the cultivator with artificial manures, and make for him that character of agricultural implements which the practical experience of the colonist found most suitable.

Instead of dependence upon other places for bread and vegetables, Victoria is now enabled not only to supply its own requirements, but have a surplus on hand for store or sale.

The social and moral advantages of this growth of the agricultural interest of the colony are not to be disregarded. Not only is the population provided with another and most pleasing source of employment, the community enriched by the diminution of wheat import, and the State relieved from anxiety, but the creation of so many settled homes throughout the interior has converted wastes into gardens, has distributed the means of civilisation, has refined the bushman, has made schools and churches accessible to the many, and has developed all that enhances the good order, intelligence, virtue, and happiness of a people.

A report upon the progress of agriculture, therefore, in this colony must be interesting to all.

The sphere of farming operations has greatly extended.

The dreadful state of the roads was a decided impediment to agriculture in olden times there, even had there been a demand for it, and a sufficient supply of land. In addition to a little cultivation near Melbourne, and on the Barrabool hills of Geelong, there was only one important centre of farming. This was Bacchus Marsh, thirty miles from Melbourne.

Two private land speculators, able, during a brief period of colonial history, to get what was called a *Special survey* of some thousands of acres, advanced cultivation by the subsequent re-sale of convenient blocks. One of these surveys was at Belfast, on the coast, and the other at Brighton, a few miles from Melbourne.

Another, who was equally successful, bought 20,000

acres for 20,000*l.* But he retained the whole for pastoral purposes, though most convenient to the capital.

The annexed table gives the total acreages in crop, and the acreage of wheat, with the population of successive years :—

VICTORIA.

Little land open for farms.

Population and cultivation of wheat.

Year	Population	Acres in crop	Acres in wheat
1838	3,511	140	80
1839	5,822	430	1,300
1840	10,291	3,210	1,940
1841	20,146	4,881	1,702
1842	23,799	8,124	2,432
1843	24,103	12,073	4,674
1844	26,734	16,529	6,945
1845	31,280	25,134	11,481
1846	38,334	31,578	15,802
1847	42,936	36,290	18,680
1848	51,390	40,279	19,435
1849	66,220	45,975	28,568
1850	76,162	52,341	28,567
1851	97,489	57,472	29,623
1852	168,321	36,771	16,823
1853	222,436	34,816	7,553
1854	312,307	54,905	12,827
1855	364,324	115,135	42,686
1856	397,560	179,983	80,154
1857	463,135	237,729	87,230
1858	504,519	298,960	78,234
1859	530,262	358,728	107,093
1860	537,847	419,380	161,252
1861	541,800	439,895	196,922
1862	554,358	465,430	162,009
1863	571,559	507,798	149,392
1864	601,343	479,463	125,040
1865	621,095	530,196	178,628
1866	636,982	592,915	208,588
1867	651,571	631,207	216,989
1868	674,614	712,865	259,804
1869	699,790	827,534	288,514
1870	726,599	909,015	284,167
1871	731,528	937,220	334,608
1872	770,000	963,091	326,564
1879	879,442	1,609,278	691,622

Even when the land was thrown out freely to the public, it was soon discovered that much of it, though available to the squatter, was comparatively useless to the farmer. It was not a question of roads and distances, but of soil.

VICTORIA.

**Geology
and
farming.**

**Farms on
the plains**

**Land north
of the main
range.**

**Hilly land
farms.**

**Roads and
railways.**

Everywhere the farmer, equally with the miner, is dependent for his success on the geology of the country.

There are great areas, north and west of Melbourne, on whose basaltic plains a thin deposit affords grass, but no depth for the plough. Where the plains of basalt or limestone have been invaded by the sands, the soil is of little use to any.

The Dividing range from east to west divides Victoria into two climates, for the north side gets far less rain than the southern. It was said of old that that northern half was quite unfit for the farmer. Of late years, however, extensive areas have been cut up into farms. In spite of deficient water, and generally light soil, large crops have been gathered in.

But this is the eastern portion of the country beyond the Dividing range. The western side, especially towards the Murray and the South Australian border, has even less rain and poorer soil. In many places, instead of luxuriant forests or grassy plains, there are hungry-looking Stringy bark trees, or a heartless scrub, on a sandy soil.

Among the ranges everywhere, especially where the decomposition of basalts, volcanic ashes, and lavas, has furnished the localities with rich chocolate earth, farms are rising. But in the more inaccessible and lofty Alps, and the isolated Grampians, cultivation could not be expected.

Wherever there are foci of population, whether urban or mining, there cultivation will be found, whatever be the soil. Good prices compensate for soil, while the centres of population furnish manure.

Those districts which are favoured by the farmer, because of the attractions of ground and climate, are now being brought more easily, year by year, into communication with the large bodies of settlers. Improved roads and ever-developing railways reduce their distance from a market.

A fair impression of the character of Victorian farming may be obtained by an inspection of the following table of percentages of cultivation. For climatic reasons, or for those required by the colonial circumstances, certain crops have a preference, and there is a great variation, occasionally, apparent in the returns.

The percentage of barley acres is very low, necessarily, compared with oats. Explanation of the great fall in the wheat of 1865, below that of 1863, is found in the ravages of *rust*, which indisposed farmers to cultivate so largely as before. The average yield for 1864 was only 9 bushels per acre. Proportion of crops thus:—

VICTORIA.
Rust in
wheat.

Year	Wheat	Oats	Barley	Potatoes	Hay	Green forage	Statistics of crops.
1863	34·8	23·2	1·5	5·8	21·9	6·2	
1864	29·4	30·0	1·5	5·4	19·	7·0	
1865	26·1	30·1	1·6	6·5	17·8	8·3	
1866	33·7	19·4	1·3	6·0	18·5	10·5	
1867	35·2	21·8	1·7	5·5	15·6	10·8	
1868	34·4	19·9	2·5	5·7	17·2	11·0	
1869	36·4	16·1	2·7	5·1	15·8	12·3	
1870	34·9	17·5	3·4	5·0	17·0	12·4	
1871	31·26	16·6	2·6	4·3	18·0	16·0	
1879	42·9	8·3	1·4	2·2	10·7	24·9	

These are the productions of a temperate climate, and mark Victoria as an agricultural country with many of the peculiarities of England. Provision is not made, as in the latter country, for the extensive growth of roots, since animals are not stall-fed there, and sheep subsist wholly on natural grasses.

Little root growing.

Bearing out remarks upon the improvement of Victoria agriculture, statistics affirm the marked increase of larger farms. In the period referred to above, farms of 500 acres and upward increased from 66,664 to 376,419 acres. Those of from 350 to 500 were three times the number in 1872 than they were in 1862.

Large farms increasing.

The yield per acre for that decade was from 9 to 22½ bushels for wheat; 15 to 30, oats; 15 to 30, barley; 2 tons to 3½, potatoes; and 1 ton to 1½ for hay. 1867 was a remarkably good year for produce, returning 22½ bushels for wheat; 30, oats; and 30, barley.

Yield per acre.

While the holders in that decade have increased from 16,416 to 33,720, and the cultivated acres from 465,430 to 937,220, or more than double, the population has advanced but one-fourth that rate. This shows that the colony is becoming increasingly an agricultural one.

Cultivation increasing more than population.

The policy of Victoria of late years seems to have been to have the land self-contained. While, therefore, there

VICTORIA:

has been a great impetus to manufactures, so employing a larger number in the towns, the growth of the agricultural or country interest has kept pace to supply food for those engaged in industries.

A liberal land policy, and the settled habits of the population, aided in the development of internal resources,

Some would consider it a mark of improvement that the percentage of fallow land has increased in the decade.

The production has not progressed equally in those ten years. Tobacco is less, and hay is only a little more; but potatoes are half as many more; oats rather more than potatoes; vines and orchards have doubled; and green forage has advanced fivefold. While the acreage of vineyards has doubled, the yield is sevenfold.

The rates for produce, March 1879, averaged 5s. 1d. for wheat; 4s. 6d. for oats; 4s. 4d. for barley; 86s. for hay; 11s. for potatoes; and 37s. for mangold.

Land is too valuable in Victoria to remain long waste. In March 1878, out of 14,806,926 occupied acres, there were 13,888,383 enclosed. A great many acres are commonage lands around farms.

The holdings in 1879 were 47,050, averaging 338 acres each, or 34 in crop. In 1856 the holdings were 4,326. In 1877 enough wheat was grown for consumption, on 44 times the average of 1855. The 1877 produce was worth 5,792,898*l.*

The crop of March 1878 showed an average of 12·41 bushels of wheat; 19·39 of oats; 20 of barley; 3·16 tons of potatoes; and 1·17 tons of hay. But 1879 gave a yield of only 410,333 gallons of wine. Crops of March 1880 will show an excellent return.

The wheat crop for 1877-8 was 7,018,257 bushels, a gain of 3,606,594 over 1867-8. The season, 1877-8, suffered from drought. The wheat in 1879 averaged only 8·76 bushels; oats, 17·6; and potatoes, 2·7 tons. In 1879 there were 691,622 acres in wheat; 134,428 in oats; 22,871 in barley; 1,939 in maize; 1,779 rye; 402 beet; 15,153 pease; 36,527 potatoes; 310 turnips; 883 mangold; 172,799 hay; 20,400 gardens; 1,936 tobacco; 4,434 vines; 96,669 fallow; 401,427 green forage. The area in tillage was 1,420,502.

The yield in different countries varied. The Moira land had but 3·89 of wheat, when Tambo averaged 19·12.

Fallow
land.

Variety of
cropping.

Prices.

Occupied
and
enclosed
acres.

Holdings.
Produce
value.

Averages
of 1878-9.

Acres
tilled.

Gunbower oats stood at 11·47, and Tambo grew 29·44. Tatchera also had but 5·82 of barley, and Wonnangatta had 50. In potatoes, Rodney had only 0·44 ton to Dargo's 4·23. Croajingolong failed in wheat and barley, not roots. County Villiers, to the westward and seaward, reckoned 22·27 of wheat; 25·06 of oats; 39·52 of barley; 3·57 of potatoes; and 1·76 of hay. In the last season, Dargo had nearly 6 times the potatoes of Lowan, and Follett had 4 times the yield per acre of wheat in Tatchera.

The question of rain has more than soil to do with this variation, as over the Dividing range showers are less expected. The potatoe lands lie principally westward and seaward. In the neighbourhood of Belfast and Warrnambool, where the soil is good and deep, and the rains are plentiful and reliable, the yield is large. The crop one year sold there at 15s. per ton only.

Most wheat is grown in Hampden, Villiers, Ripon, Grant, and Bourke counties; most hay, of course, near the centres of population. Vines, requiring dryness and warmth, succeed better over the Dividing range,—Bogong, Bendigo, and Talbot equalling the acreage of the old-established vineyards of Bourke, Grant, and Evelyn. Artificial grasses are not to be looked for much beyond the seaboard counties.

The returns for 1878 establish the fact of Victoria occupying a high place among the Australian Colonies for agricultural produce; though New Zealand, from its more dripping climate, and its consequent ability to raise artificial grasses with ease, as well as average heavier crops of wheat and potatoes, may have better prospects.

An average of eleven years gave 14·39 bushels for wheat; 19·39 for oats; 20·12 for barley; 3·16 tons for potatoes; and 1·28 for hay. There were, in 1878, 218,848 lbs. of hops, 15,829 cwt. of tobacco, 14,000 mulberry trees, 1,333 tons of chicory, and 457,535 gallons of wine made. On farms, 68,178 males and 29,198 females were employed.

Excepting in a few localities, the vines are not so paying a crop as in New South Wales and South Australia. The quality is not equal to the quantity, though at 1s. a quart, or 2d. a tumbler, retail, a cheap drink is provided. The vines of Rutherglen produced 64,700 gallons

VICTORIA.

Yield varies in the counties.

Rain and potatoes.

Best localities for products.

Victoria and New Zealand-farming future.

Farm statistics.

Vines and wines.

VICTORIA.

in 1878. The Germans are the best vignerons in the Colonies. They planted the grape on the Murray Hills in 1850. The vine thrives on the slopes of volcanic tufa, and the sides of craters. In 1878 there were seven million vines. Hops grow well in Gipps Land.

Sericulture
progress.

Sericulture promises well. The climate is well suited to the mulberry, and the worms are healthier than those in Europe. The Japanese grain is extensively raised. The lectures of Mrs. Bladen Neill have popularised silk-growing in the colony. A plantation of 30,000 mulberry trees is in Melbourne Botanic Gardens. A ladies' association had 1,000 acres for planting out over Castlemaine. The colonial eggs, or grain, have sold at high prices in Italy.

Farm
improve-
ments.

The amount of machinery on Victorian farms attests the progress of agriculture. The return for 1878 gives the value of it at 1,954,080*l.* The worth of improvements was stated at 15,086,139*l.* Shire Hampden ranks first in this outlay, and St. Arnaud and Mortlake follow.

Imple-
ments.

On the farms were 302 steam engines, 39,878 carts, 34,808 ploughs, 8,333 waggons, 39,878 chaffcutters, 830 thrashing machines, 3,803 scarifiers, 8,213 reaping machines, 1,093 mowing machines, 1,932 winnowers, 986 strippers, 391 wine presses, &c.

Stock-
keeping on
farms.

Stock-keeping on farms in Victoria distinguishes the agricultural pursuit there from that in the neighbouring colonies, and from Victoria itself in the olden times.

In the infancy of agriculture a few struggling men scratched the ground for a wheat or hay crop. Then better tillage had a more extended range of cropping. More capital and more education, not less than experience, led to the adoption not only of machinery, but of the raising of stock.

Dairy
farms.

Dairy farms, of course, grew with the expansion of towns. But the higher class of farmers trod upon the heels of the squatters.

Breeding
on farms
profitable.

Though they could not expect, on their limited acreage and on expensive purchased land, to compete in meat and wool with the lords of vast acres or the holders of Crown leases, yet they found the advantage of attention to breeding for the pastoral runs themselves.

Many Victorian farmers realise large sums for finer varieties of sheep, horses, and cattle, raised by the extra care and intelligence devoted to the subject.

In 1878 the agricultural returns exhibited the extraordinary fact that the old-fashioned *station system* was gradually yielding before the development of modern ideas. Thus it appeared that the amount of stock *not* upon Crown land stations in Victoria came to 185,671 horses, 256,780 milch cows, 742,489 other cattle, 179,209 pigs, and 5,611,964 sheep.

VICTORIA,Stock not
on Crown
lands

Queensland and South Australia with their large territories will continue to be station colonies ; but Victoria and New South Wales are rapidly progressing from the stage of the merely pastoral to that of the mingling of the pastoral with the agricultural.

Pastoral
and agri-
cultural
joined.

The Australian farmer's great trial is in the recurrence of long periods of excessive drought. Though provided with a better rainfall than most other parts of the continent, Victoria is sometimes exposed to the plague of dryness. Count Strzelecki, the Polish traveller, said that 'irrigation then becomes the first measure with which the agricultural improvements of Australia must begin.'

Drought
and irriga-
tion.

This is so appreciated by the Melbourne Government that great efforts are being made to store up large supplies of water, which, though previously intended for gold washing, shall be also available for the use of the farmer.

Water
reservoirs.

The Chinese, those industrious and thoughtful workers, have done much for the progress of agriculture in this respect. In Victoria they have hired barren wastes and sterile sands, and, by means of a system of irrigation, have raised far better crops than the English farmers near them on the best of soil. Such an example has been wisely followed by the Europeans.

Chinese
farming
and
irrigation.

Victoria has an advantage over its neighbours in a lesser proportion of sandy soil, and in the excess of that with a good absorbing power. Australian soils generally contain less vegetable fibre than those in Europe, and suffer in their incapacity to absorb as much moisture from the air, or to retain the moisture of the ground.

Character
of soil.

Among the favoured districts of Victorian farming may be mentioned the Barrabool Hills of Geelong, the Yarra, Melton, Bacchus Marsh, Kilmore, Colac, Gisborne, Kyneton, Seymour, Belfast, Warrnambool, Carisbrook, Hamilton, the basaltic country round Ballarat, and near the volcanic craters of the West, besides near the Murray.

Best
farming
localities.

VICTORIA.

**Advantages
of Gipps
Land.**

Gipps Land, though so near Melbourne, is cut off by ranges and swamps, or its rich soil would have been the home of the farmer rather than of the squatter. Now opened up by a railway, a new and healthy agricultural centre will be thrown open to the public.

In spite of hot winds, which never hinder the farmer's daily toil, Victoria is, perhaps, in its soil and climate, one of the most profitable and enjoyable of places for the operations of agriculture.

MINING.

**Mineral
wealth un-
expected.**

Until 1851 the colonists of Victoria had no idea of their country becoming one renowned for its mineral wealth. South Australia for nearly ten years had enjoyed a reputation for its copper, as New South Wales had for its coal during a much longer period. But Victoria had given no signs of copper, and but a delusive expectation of coal.

As to gold, although particles had been seen in several places, all the colonies of Australia and New Zealand were alike without a dream of rivalling California.

**State before
the gold.**

Up to 1851 Victoria could only be said to have one interest—the pastoral. The country was steadily, though very slowly, advancing. There were few fortunes made, unless by the great squatters; but there was a quiet enjoyment of worldly comforts, and the indulgence of but moderate ambition. The place was respectable and well to do, though far less known and talked about in the world than either South Australia or Tasmania. New Zealand had even then attracted a greater public attention.

But, at the close of 1851, Victoria, then only one year old, took the foremost rank of all the colonies for mineral wealth and prospects.

**N.S.W.,
more min-
erals, but
less gold.**

Notwithstanding many efforts since to develop other treasures of the earth—silver, copper, tin, and coal—gold continues to be the one main mineral product there. The colony is inferior to New South Wales in the variety of its mineral resources, although the export of gold in Victoria is more important.

**History of
the gold
discovery.**

The history of the gold discovery may be glanced at. As Count Strzelecki explored the Alps in 1840, he

Mining.

found gold in Gipps Land, but kept the secret, as the Rev. W. B. Clarke and others had done in New South Wales. The metal was seen by the river Plenty in 1841; and considerable quantities were brought down a few years after by a shepherd from the Pyrenees. It was found at Clunes—since so celebrated with the Port Phillip Gold Company—by Mr. Campbell, a squatter, in May 1850; but he, also, kept the secret.

VICTORIA.

Known in
1840.

When Mr. Hargraves published the discovery in New South Wales, May 1851, a search was made in Victoria. Mr. Michael wrote of his getting gold at Anderson's Creek July 5; Mr. Esmonds took gold from Clunes in July; and Mr. Hiscocks published his Ballarat discovery on August 16, though the rush to Ballarat did not take place till December. Mount Alexander diggings attracted miners in September. The Bendigo diggings were in full work at the beginning of 1852. The Ovens field followed soon after.

First gold-fields, 1851.

At first the gold was got from the roots of trees, and the sods of grass, as well as the sands of rivers. Search was then made in flats near streams, and the metal was recovered from gravel, sand, or pipe-clay resting on the bed slate rock. Deeper holes were sunk in higher ground, and at greater distances from present streams.

Find first
on the
surface.

Then it was ascertained that the largest deposits lay in *leads*, or courses of ancient rivers, subsequently filled up with alluvial matter. If a hole did not drop upon the *lead*, the miners drove for it beneath within the area of their claim.

Deep leads.

In some places, as at Daylesford, subsequent erosion had carried off masses of the auriferous ground, and left rises here and there, which were tunnelled from either side for their hidden treasure.

Tunnelling.

The next great discovery was that the *leads* might be found beneath the great beds of lava or basalt, so common around Ballarat. These were pierced to great depths, through even four layers of distinct rock, and drives were made at great cost and trouble to reach the *gutter*. When the *wash dirt* of the gutter was found to be from six to twelve feet in thickness, a rich result rewarded labour.

Ballarat,
deep leads.

Deep leads are prominently the feature of Victorian mining, few of any consequence being beyond the

VICTORIA.

border. But they are not now confined to Ballarat district. The working of a mine has involved a company in the expenditure of many thousands of pounds, and several years' labour, before a return was obtained.

Woods Point veins in diorite.

The *White Hills* of Sandhurst are a curious gold formation, consisting of huge quartz boulders and great deposits of white pipe clay; the latter has been thought to be decomposed *in situ*. Cement, especially at Pleasant Creek, becomes a profitable working for gold.

The *Woods Point* mines of the Alps were more singular. They rose in horizontal veins through a decomposed diorite or greenstone, which igneous rock intruded into the Upper Silurian. Successful search has also been made in ancient ledges of valleys, and gold obtained from places removed from old channels, though, probably, filled by inundations.

Quartz mining.

Quartz mining, not attempted in the early days, is now the great industry of Victoria: especially at Sandhurst, Ballarat and Ararat.

At first a few specimens were knocked off projecting reefs in sight. Then the rude hammering was followed by blasting the rock, roasting the stone, crushing by hand, and disengaging the amalgam in a frying-pan. Elaborate machinery, steam stampers, amalgamating pans, and other scientific appliances followed.

Improved methods.

Then deep beds of alluvial were penetrated to come upon a vein whose dip had been observed in a certain direction from a neighbouring rock. The original quartz miners retreated when the vein in the mine grew too small for profitable working. Their successors drove down deeper, recovered the vein, and often found it richer at depths where scientific authorities had affirmed the golden crystals could not exist.

California a school for Australia.

The experience of Californian diggers has been of great service to the Victorians. The success of the former encouraged the latter to continue driving deeper in their quartz claims. Several of these in Victoria are now more than two thousand feet below the surface, and yield as handsomely as ever.

Gold alloys.

Much difficulty was experienced with the *Mundic* in workings. These blocks of iron pyrites were known to be rich in gold, but have only recently yielded to treatment at a profit. Arsenical pyrites at Hustler's Reef, Sandhurst, has produced at the rate of 170 ounces in

the crushing of 70 tons. Maldon pyrites turned out 46 ounces a ton. Ustulation, or slow burning, separates the alloy.

Combinations of the gold with bismuth, manganese, etc., have been successfully treated. In the Ovens it is seen with copper, silver, etc.; and the metal was but 16 carats, when specimens from Ballarat were at $23\frac{1}{2}$ carats. The new Stetefeldt process of Nevada, Western America, will revolutionise some Victorian mines. Gold has been seen inside quartz crystals.

Quartz veins are sometimes of great width, even to 150 feet. They are either barren or fertile. South Australia has much quartz of a barren nature, while Victoria has been favoured with that fertile in gold. A reef, twenty-two feet wide, at Laureston, has yielded 1 ounce 10 dwt. to the ton.

Gold is chiefly got from the quartz veins coursing in nearly a north and south direction through Silurian rocks, especially when in contiguity with those of igneous character. The dip of the vein is often almost vertical. But the mineral is got also from granite, as well as slates and sandstones. It has been seen in a diamond.

Mr. Selwyn, the Victorian Government geologist, warned the miner against wasting his time in searching for gold in the miocene deposits, but directed him to look only in the pliocene. He was of opinion that the quartz veins had been but recently charged with gold. Mr. Brough Smyth, of the Melbourne Board of Mines, finds gold in the Silurian, mesozoic, miocene, and pliocene formations. The Rev. T. Julian Woods, of South Australia, traces its origin to dioritic rocks.

Nuggetting is a pleasant and profitable occupation; especially when, as it has frequently happened, the lumps are found a few feet only from the surface in the earth. Colonial geologists have determined that these agreeable *finds* grow in the soil.

Experiments have shown the high probability that nuggets grow by deposition from meteoric waters in drifts, according to the electro-plating process. Mr. Selwyn refers to these drifts being thermal and highly saline at the time of volcanic eruptions, and so favourable to the fall of gold, when in a chlorite solution, upon any organic substance that may be in the way.

Stetefeldt process.

Barren and fertile quartz.

Source of gold.

Age of gold.

Nugget-making.

VICTORIA.

Mr. Daintree saw gold in pyrites displacing the organic material of a tree in drift beds. Mr. Newberry got some on other pyrites. Mr. Sonstadt found gold in sea water in 1872, confirming Mr. Selwyn's theory. Mr. Skey one year showed that sulphuretted hydrogen attacks gold at ordinary temperature, forming a sulphide, which is soluble in alkaline sulphides.

As nuggets are so uncommon in Gipps Land and the Ovens, where igneous action is so slight, and so numerous where the basalts have played an important part, the theory has been generally admitted.

Large nuggets. Some wonderful nuggets have been found in Victoria. There was one in 1853, obtained from Canadian Gully, Ballarat, weighing 134lbs. The Ballarat *Lady Hotham* nugget, of 1854, weighed 98lbs. The *Blanche Barkly*, 145lbs., came from Kingower in 1857. The following year Ballarat gave forth the *Welcome*; it lay at the side of a neglected hole, 180 feet deep, and weighed 2,195 ounces, or 183lbs. The *Welcome Stranger*, from Moliagul, was 2,280 ounces, and was dug up two inches from the surface; its worth was 9,534l.

Several large nuggets came lately from the Berlin Gold Fields. The *Viscount Canterbury*, 1,105 ounces, was of the singular purity of 23½ carats; its depth was 15 feet. The *Precious*, of 1871, weighed 1,621 ounces, and was got from a hole of 12 feet. The *Kum Tow* of the Chinese came from a 12-feet claim.

Gold export, 192,000,000l. The total export of Victorian gold, at four pounds an ounce, has been estimated at 192,000,000l.; though a considerable amount found its way to Adelaide, Sydney, and other ports by private hands.

The yield has fallen off of late years, as will be seen by the following table of ounces reported in the year:—

Quantity decreased.	1851	.	.	245,146	|	1862	.	.	1,658,207
	1852	.	.	2,218,782	|	1866	.	.	1,433,687
	1853	.	.	2,676,345	|	1870	.	.	1,222,798
	1854	.	.	2,150,730	|	1871	.	.	1,345,477
	1855	.	.	2,751,535	|	1872	.	.	1,331,377
	1856	.	.	2,985,991	|	1873	:	:	1,249,407
	1860	.	.	2,156,660	|	1878	:	:	768,869

Gold licenses.

The first gold licenses were issued Sept. 1, 1851. Each miner had to pay thirty shillings a month. It was the rough hunt for defaulters by the police, and the manner

in which they were punished, that provoked the ill-feeling at the diggings, which culminated in the so-called Ballarat Rebellion of December, 1854.

VICTORIA.

Ballarat
Rebellion.

After lives had been lost, and a wild commotion produced, the monthly payment was relinquished, and a gold duty of half-crown an ounce was imposed in 1855 ; 2s. in 1862 ; 1s. 6d. in 1863 ; 1s. in 1866 ; 6d. in 1867. This duty was taken off the digger at the close of 1867.

Gold duty.

Victoria is now divided into seven mining districts : viz., Ballarat, Beechworth, Sandhurst, Maryborough, Castlemaine, Ararat, and Gipps Land. Wardens, mining surveyors, and registrars are placed over subdivisions of these. One-third of the colony is auriferous.

Mining dis-
tricts.

A mining board of ten persons, elected by the holders of miners' rights, takes oversight of a mining district, making bye-laws and administrating mining regulations, though acting in subordination to the Government.

Gold over
one-third of
Victoria.

The wardens preside at the several Courts of Mines, instituted for the trial of vexed questions as to claims and shares. Litigation has decreased at the diggings. In 1862 there were 422 suits before the Courts of Mines, but in 1871 only 137.

Less lit-
igation.

The gold was at first exported as it was found. But Mint much is now taken to the Melbourne Mint, which received gold to the value of 2,267,431*l.* in 1878, issuing that year 2,171,000 sovereigns.

Miners'
rights.

Each person engaged in gold digging is required to hold a *miner's right*, or license, costing five shillings a year. This entitles him to land for home and garden.

The number of European miners at work in 1878 was 28,129 ; of these, 13,570 were at alluvial workings, and 14,559 on quartz reefs. There were, also, 19,621 Chinese diggers, though only 131 were quartz miners. On Dec. 31, 1879, of 37,553 miners, 9,110 were Chinese. At the end of 1878, 50,595 were at work ; in 1854, 80,455.

Number of
diggers.Chinese
diggers.

Quartz mining is more profitable than alluvial, though requiring more capital. The rate for the former averaged, for 1871, 16*4l.* 10*s.* 4*d.* per man. More than half the alluvial diggers are Chinese. The yield from the quartz, in 1878, was 500,637 oz. ; and from the alluvial workings, 268,232 oz. ; a total of 768,869 oz.

Quartz
mining
more profit-
able.

Ballarat was the leading district for the alluvial, and Sandhurst for the quartz. Ballarat is now rich in quartz.

Ballarat al-
luvial and
Sandhurst
quartz.

VICTORIA.

Yield from stone and tailings.

Mining companies.

Extent of claims.

Machinery used.

Value of land and plant.

Yield per ton.

The quartz reefs in 1878 were 3,393, and the area of working 1,185 square miles. The yield on the crushing of 908,526 tons, in 1870, averaged 9 dwts. 21 grs.; while that on 965,573 tons, in 1877, came to 9 dwts. 9 grs. per ton. The yield from quartz *tailings*, or refuse, was 3 dwts. 17 grs.; and from pyrites and blanketings, 2 oz. 14 dwts. 5 grs. In February, 1874, in Sandhurst, 4,885 oz. came from 511 tons of stone in a mine.

The companies on the gold fields were 1,250^{l.}, with a capital of 17,000,000^{l.}. In 1879, the machinery, &c. on the various mines was valued at 1,903,494^{l.}. The value of claims and land under lease is 4,626,368^{l.}.

In 1873, the dividends from quartz companies were 841,859^{l.}, and from alluvial, 118,965^{l.}. The returns are about 35s. a man weekly. One Company (Gordon Gully) shared 148,437^{l.} dividends in six months, after paying 17 per cent. tribute to the proprietors.

The revenue from the gold-fields to the Government was but 35,606^{l.} for 1871. This did not include fees and fines. The sum of 2,536^{l.} was received for leases, at 4^{l.} per 20 acres. The *claims* occupied 81,584 acres, and there were, moreover, leased 25,583 acres. Thus not one-half per cent. of the recognised auriferous area of the colony was then occupied by miners.

The great increase of machinery is manifest in expensive quartz crushers. Alluvial fields require less costly machinery. Even as far back as 1856 there were 3,540 puddling machines and 370 whims. In 1879, the total machinery rose to 25,717, of which 17,541 belonged to alluvial, and 8,176 to quartz.

At the close of 1878 there were 240 steam engines employed on alluvial mining ground, of which 106 were at Ballarat. There were 796 on quartz reefs, of which 240 were in the Sandhurst district, 130 Castlemaine, and 174 Ballarat. There were 831 horse puddling machines, 171 steam puddling machines, and 14,606 sluices, Toms, and sluice boxes. The mining plant was valued at 1,903,494^{l.}, and the land was estimated at 5,207,895^{l.}. In 1867, the plant was worth 2,079,195^{l.}.

The 1878 yield per ton from quartz crushing was 6 dwts. 17 grs. in the Ballarat district; 10 dwts. 22 grs. in the Beechworth; 6 dwts. 2 grs. Castlemaine; 17 dwts. 10 grs. Maryborough; 9 dwts. 20 grs. Sandhurst; 14

dwts. 8 grs. Ararat; and 25 dwts. in Gipps Land. Washdirt in 1872 averaged 1 dwt. 18 grs., and cement 4 dwts. 15 grs. The proved reefs in 1878 were 3,402, and there were 1,290 square miles worked upon. The depth of Magdalæ mine is over 2,300 ft.

On December 31, 1878, there were the following persons employed on the alluvial and quartz mines :—

	Alluvial	Quartz	Total
Ballarat . . .	4,384	3,862	8,246
Beechworth . . .	3,572	1,317	4,889
Sandhurst . . .	2,022	4,331	6,353
Maryborough . . .	5,473	1,902	7,375
Castlemaine . . .	3,536	1,365	4,901
Ararat . . .	1,986	907	2,893
Gipps Land . . .	1,531	448	1,979
	22,504	14,132	36,636

Men employed in quartz and alluvial ground.

Other metals besides gold are of little consequence, and can scarcely be called of present commercial value. Victoria has no rich copper mines like South Australia and Queensland, lead like Western Australia, or coal like New South Wales.

Not rich in other metals.

Silver at one time seemed very promising at St. Arnaud, near the western edge of the Dividing range. After 11,348 tons of ore were raised, valued at 5,047*l.*, a pause followed. The richest lodes were beneath the water level, and were impracticable to the operators. The easily reduced chlorides were above, but the sulphides were beneath.

Silver mine.

The Stetefeldt system of roasting will make St. Arnaud more valuable. The oxidation of the compound converts the sulphides into the chlorides. Mr. Stetefeldt of Nevada employed hot air to facilitate the action of salt upon the ore. This saves money in working, and makes otherwise valueless ores to be of commercial worth.

New way of making the ore valuable.

Argentiferous galena is found on the Snowy river, and at Berlin diggings. Argentiferous sulphide of lead occurs at Buchan, Gipps Land. A claim in Ararat is very rich in its silver compound with the gold. At St. Arnaud the chloro-bromide of silver veins have casings of black carbonaceous matter, slightly ferruginous. But

Silver localities.

VICTORIA.

Lead mines.

only 167 acres of Crown land are leased for silver workings, 1,991 copper, 433 antimony, 320 iron.

Lead is seen in various places. To 1879 there were raised six hundred tons of ore, valued at 4,892*l.* The Murindal mine of Gipps Land is being worked.

Antimony promising.

Antimony is more promising. The chief mines are at Heathcote, Woods Point, and Castlemaine. In 1871 only 869*l.* worth were exported; but the total value of that raised altogether has reached to 137,401*l.* Heathcote exported 4,268 tons of ore in the first half year of 1873; 2,627 tons were raised in 1878.

Copper not hopeful.

No copper was raised in 1873, though during 1878 there were 1,426 tons of ore. Much expectation was excited about a mine on the Thompson river of Gipps Land. Castlemaine, St. Arnaud, Crooked river, and Maldon have yielded specimens. But Victoria, unlike South Australia, is very barely furnished with those crystalline limestones which are so productive of copper.

Bismuth, cobalt, &c.

Bismuth is collected at Tarrengower, Clunes, and Omeo. Manganese is brought from Clunes and the Loddon. Cobalt, in paying quantities, is expected from Gipps Land and the Goulburn. Plumbago is known at Creswick, and zinc at St. Arnaud.

No iron ore worked.

Iron has never been wrought, as in New South Wales, though pretty rich ore exists; as hematite, near Melbourne; arseniate, at Maldon; micaceous specular, at Lake Tyers; phosphate, at Sarsfield of Gipps Land; titaniferous, at Beechworth, Dandenong, and along the Yarra; and magnetic, at the Sandhurst diggings. From sixty to seventy per cent. has been estimated to be pure iron in some of these samples.

Meteoric iron.

The meteoric iron block that fell near Cranbourne weighed 30 cwt.

Tin streaming.

Tin has really become an important object of search. Altogether, the export has been 340,692*l.* Up to 1865, 2,380 tons were raised. The Yarra, the Coliban, the Latrobe, but particularly the streams feeding the Upper Murray, have yielded it in their sands, though not at all to the extent of the country between New South Wales and Queensland. The black oxide is the form assumed in the ore. At Beechworth fifty-four per cent. pure metal has been smelted. Tin is also found at Walhalla, Daylesford, Colac, Cape Otway, Chiltern, and the Tarwin.

Coal has often raised the hopes of the Victorians. The known carboniferous area is 4,000 square miles. Hardly any seam of fair quantity has been got at. A new company, organised to work Western Port coal, is very hopeful of success. But Mr. Mackenzie, Coal Examiner from New South Wales, gave little hope of pecuniary profit, though he suggested a search inland. But since that the Kilcunda is said to have coal in payable quantities, and has sent hundreds of tons to Melbourne. A seam of 30 inches is at Stawell.

There were, in 1878, seven leases of ground for working over 4,368 acres, and several licenses for searching over other acres. Lal-lal lignite is sold at Ballarat.

Precious stones have been for many years found in the granite country around Beechworth, Lilydale, and Daylesford. Chalcedony, cornelians, zircons, amethysts, agates, opals, and sapphires have been among them.

The real ruby, the blue sapphire, the oriental topaz, the oriental amethyst, and the diamond are more valuable finds in the colony. A fine blue sapphire was got from the gizzard of a wild duck shot near Melbourne. But all are not so sanguine as the Rev. Dr. Bleasdale, who recently declared, 'No one country on the broad earth has yielded such an assemblage of varieties of rare and precious gems as Victoria.'

This declaration, from so important a local authority, has quickened the sight of miners at the Ovens, especially those engaged at stream tin. But few have been seen.

In 1878 there were 33 leases for other minerals than gold, including 9,041 acres. Of these, five for tin were over 1,029 acres; 22 antimony; 1 galena; 41 copper; 1 lignite; 1 iron; 1 flagging.

The MINING LAWS of Victoria have had several important changes.

'Miners' rights' can be consolidated when a company agrees to work a claim registered, on payment of a certain sum, multiplied by the number of miners' rights which this is to represent. The consolidated miners' rights for 1871 were 128, representing 1,789 single rights of 5s. each per annum. The right was 1*l*. in 1855.

Business Licenses are requisite to carry on business at the gold-fields, providing that the Crown land so occu-

VICTORIA.

Coal area
4,000 sq.
miles.

New coal-
mining
company.

Coal leases.

Precious
stones.

Diamonds
found.

Tin and
coal leases.

Mining
laws.

Miners'
rights.

Business
licenses

VICTORIA.

- pied does not exceed a quarter of an acre. The annual payment is 5*l.* In 1853 it was 50*l.*; in 1855, 10*l.*
- Gold leases.** Up to the end of 1878, the Government granted 10,648 leases for 193,902 acres of auriferous land.
- Reef leases.** These are from 1 acre to 30 acres in extent. For a quartz reef the land must be at least 100 yards along the vein, though not more than 600, with a width of not less than 50, nor more than 200 yards.
- Rental.** The applicant for a lease deposits 5*l.*, if from 10 to 30 acres, and 2*l.*, if below 10 acres, besides paying survey fees. Then the annual rent of the land is but 1*l.*
- Leases for working coal, iron, &c.** Leases may be had for lands containing other minerals than gold, for terms up to 30 years. Coal leases are for areas between 50 and 640 acres; for iron, between 2 and 100 acres; for other minerals (except gold), from a quarter of an acre to 50 acres. The rental varies from 3*d.* to 2*s.* an acre per annum. A royalty upon these minerals is also demanded.
- Licenses and fees.** Annual *Mineral Licenses* are granted, enabling the proprietor to search for other minerals than gold. The coal area must not exceed 640 acres; iron, 100; other minerals, 50. License fees are from 1*l.* to 10*l.* for the year.
- Water-right licenses.** There are *Water-right Licenses* for cutting of races, at the rate of not more than 4 acres for every mile of race. The term for races, reservoirs, and dams cannot exceed 15 years.
- TRADE.** **Trade and Manufactures.**
- Everything but meat once imported.** Victoria has within the last few years taken a first-class position both for commerce and local manufactories.
- In the old pastoral times wool formed almost the only export; and the imports comprehended nearly everything but meat, as sufficient flour was not raised for consumption, and manufactures were scarcely known. The gold discovery developed trade. The growth of population opened the workshops.
- Commerce after gold.** Melbourne did not engage much in commerce until after the gold times began. Of later date, a check was apparently given to the merchant by the imposition of those protective duties which necessarily limited relations with other countries.
- Shipping returns.** The shipping returns afford a knowledge of trade. The outward, corresponding nearly with the inward, is given in the following table:—

Years	Ships	Tonnage
1837	140	13,424
1840	232	36,334
1850	508	87,087
1854	2,607	798,837
1860	1,841	599,137
1865	1,823	599,351
1869	2,334	730,961
1878	2,219	951,750

The two vessels that may be called the forerunners of Victoria shipping were the 'Gem,' which carried Mr. Batman from Launceston, in May 1835, and the 'Enterprise,' despatched by Mr. Fawkner some time after. As will appear in the foregoing table, the vessels frequenting the harbour of Port Phillip were of very small tonnage at first, being principally colonial schooners. Those of 1837 averaged 95 tons each, while the ships of 1872 showed a mean of 310 tons.

The early merchants managed to get good rates at the settlement of the Colony. For awhile, the freight from Launceston to the Yarra-Yarra, now a twenty-four hours' run by steam, was 5s. a head for sheep. One merchant, however, paid heavily for want of geographical knowledge, as he sent a cargo to Western Port, in the place of Port Phillip. A thousand sheep were thus reduced to seventy-five before reaching their station.

The earliest merchant was John Batman, who had originated the settlement of the colony. His rival, John Pascoe Fawkner, had the first lighters on the Yarra. The first bank was established by Captain Swanston, of Hobart Town, in 1837, while a savings' bank began in 1838. A wooden custom-house was erected at Williamstown, then called Gellibrand's Point.

The first ship for London was the 'Thomas Laurie,' with 400 bales of wool. The first ship from London to Melbourne was the 'Bryan,' 500 tons, in 1839. The old wharf was in a wretched state. An order, in 1839, directed that no vessel was to lie at it longer than six days. The early custom-house was described as 'a dirty-looking shed.' And yet such was the promise of future commercial greatness, that a Launceston paper, the

First colonial craft.

Average tonnage.

Ancient freights.

First banks.

Early trading times.

VICTORIA.

Prophecy
in 1839
came true
in 1858.

'Cornwall Chronicle,' uttered this prophecy in June 1839 :—

'It is by no means improbable that Port Phillip, at some future day, will rise to be the queen of the Australian Colonies, and that Van Diemen's Land will dwindle into a mere place of pleasurable resort for the wealthy inhabitants of New Holland.'

Old style of business.

The primitive mercantile transactions were managed extensively by a system of orders and promissory notes, as cash was not ready at hand. The discounting of these was a profitable trade, if not quite a prudent one. As the original merchants were almost wholly from Van Diemen's Land, between which colony and New South Wales a little jealousy existed, the Sydney 'Colonist' of June, 1837, had this reference to times and places :—

'The settlers (of Port Phillip) complain of not being able to get remittance in specie from the sister colony, to pay for the purchase of allotments, and Government will not take cheques or bills; but it is a very old complaint with which our Van Demonian brethren have long been chargeable.'

Trade in 1839.

Trade has made some progress in Melbourne since the year 1839, when there were four tailors, four blacksmiths, four butchers, three saddlers, three bakers, and twelve shoemakers, but not a watchmaker or a tinman. A Scotchman came in at the close of the year as the first tobacconist. The original baker of Australia died that year in Sydney. He came in the first fleet, 1788, and was 110 years of age at his decease.

Colonist 110 years old.**No place for brick-makers.**

The Government of Sydney drove away the early brickmakers to Adelaide, by the severity of the land enactments. While a squatter held possession of many thousands of acres on a rental of 10*l.*, the poor brickmaker of Melbourne was condemned to pay 10*l.* a year for being on Crown land, 5*l.* for erecting a hut thereon, and 2*l.* 10*s.* for using the clay. Even the limeburners paid a tithe of bags of lime as rent to the Government.

Tithes for rent.**Mr. Westgarth on Geelong.**

Geelong very nearly eclipsed Melbourne as the trading capital of Port Phillip. The prices of land allotments there, at the first sale, realised considerably more than those of Melbourne lots. Mr. Westgarth was quite justified in writing—'The site of Geelong, the qualities of its harbour, and of the rich, beautiful and open

country that extends for many miles behind it, appear to me to have offered recommendations for the site of the capital decidedly superior to those of Melbourne.' By the time the bar, which obstructed the harbour, could be removed, Melbourne had secured the trade of the colony.

The gold-fields gave the great start to both exports and imports. In the article of candles alone, largely required in mines, a wonderful change appears from 1850 to 1855. The import of the first year for candles was 1,611*l.*, and for the last 466,775*l.* Oats, at the same time, sprang from 2,572*l.* to 594,248*l.*; potatoes from 2,179*l.* to 316,810*l.*; and jewellery from 656*l.* to 102,620*l.*

In 1850 the beer import was 38,115*l.*, and in 1858 614,692*l.* Spirits, in like manner, rose from 51,334*l.* to 1,045,053*l.* Wine advanced from 13,795*l.* to 373,529*l.* The imports were fifteen times as much in 1853 as in 1851.

Through reckless importations there, and exportations from Britain, moderated afterwards, enormous losses were experienced by both European and colonial merchants in the mad trading gold era.

The imports have necessarily fluctuated much more than exports, being dependent upon the state of stocks in the Home market, as well as from the supposed demand for goods in the colonies. The subjoined Import table tells the story of frequent wild speculation :—

Wonderful changes in imports.

Imports rise 1,500 per cent. in two years.

Great trading losses.

Speculative imports.

Year	Imports	Per head		
		£	s.	d.
1837	115,379	91	0	0
1840	435,367	42	0	0
1844	151,062	5	13	0
1847	437,696	10	4	0
1850	744,925	9	15	0
1853	15,842,637	71	5	0
1854	17,659,051	56	11	0
1855	12,007,939	32	19	0
1860	15,093,730	28	1	0
1865	13,257,537	21	7	0
1871	12,341,995	16	17	0
1878	16,161,880	18	12	0

VICTORIA.

Items of imports.

Among the items of import for 1878, the following are selected :—Apparel, 370,350*l.*; beer, 187,232*l.*; boots and shoes, 213,435*l.*; coals, 356,994*l.*; coffee, 66,122*l.*; cotton piece, 626,838*l.*; drapery, 270,582*l.*; oats, 92,447*l.*; rice, 142,691*l.*; machinery, 84,667*l.*; hops, 56,952*l.*; iron, 730,401*l.*; cattle, 253,314*l.*; sheep, 260,438*l.*; watches, 50,801*l.*; kerosene, 89,686*l.*; opium, 71,308*l.*; paper, 166,447*l.*; sewing machines, 71,869*l.*; silks, 256,549*l.*; brandy, 189,890*l.*; gin, 32,963*l.*; rum, 20,117*l.*; whisky, 82,669*l.*; stationery, 60,933*l.*; sugar, 1,051,282*l.*; tea, 540,930*l.*; tobacco and cigars, 268,864*l.*; wine, 147,569*l.*; woollen piece, 690,176*l.*; books, 180,163*l.*; music, 71,397*l.*

The exports for the years corresponding with the list table are marked by a steady increase. Before the excessive incoming of goods from Britain compelled the Melbourne merchants to embark in a large intercolonial trade, the re-exports were few. Since 1851 the increase of exports has been indebted not only to the great gold product, but to the re-shipment of exports :—

Year	Exports	Per head		
		£	s.	d.
1837	12,178	9	12	0
1840	128,860	12	10	0
1844	256,847	9	12	0
1847	668,511	15	11	0
1850	1,041,796	13	13	0
1853	11,061,544	49	14	0
1854	11,775,204	37	14	0
1855	13,493,338	37	0	0
1860	12,962,704	24	2	0
1865	18,150,748	21	3	0
1871	14,557,820	19	18	0
1878	14,925,707	17	3	6

Export statistics.

The less amount of exports during the last few years, in proportion to the population, is no evidence of the decline of the colony. Victoria is now so rapidly advancing in civilisation as to approach the condition of an old country.

Difference between new colony and old country.

New colonies must always exhibit, if equally prosperous with older ones, a greater relative amount of exports. They are dependent upon the export of the raw material produced. An old country declines to

export that, preferring to manufacture it; as the raw produce is required by the population itself, many of whom are engaged in the superior arts of civilised life.

Victoria, though exporting less per head, is utilising its products more in its extensive manufactures. The capital is increasing at an enormous rate, and may be seen employed in local improvements. Like Russia and the United States, Victoria has been developing internally by trade, and so limiting its importations.

The trans-shipment of imported goods to other countries from Melbourne amounted to 3,318,219*l.* in 1878.

VICTORIA.Trans-
ship-
ment.

Among the leading articles of export in 1878 were : gold, 1,495,140*l.*; wool, 5,810,142*l.*; tallow, 103,879*l.* But of the gold, 673,370*l.* belonged not to Victoria; neither did 2,362,697*l.* worth of wool.

Export
items.

The imports in 1878 from New South Wales were 4,121,948*l.*; exports to, 2,474,909*l.*; New Zealand, 813,112*l.* and 1,026,292*l.*; Tasmania, 285,768*l.* and 507,544*l.*; South Australia, 350,148*l.* and 699,973*l.*; United States, 595,713*l.* and 23,941*l.*; United Kingdom, 7,389,239*l.* and 6,458,484*l.*

Trade.

The Tariff question has caused much discussion in the colony itself, as well as among its neighbours.

Tariff
question.

The Murray, dividing Victoria from New South Wales, is a long shore line to guard against smuggling. For 3 years Victoria was to pay a lump sum of 54,000*l.* a year to the Sydney Government in lieu of duties on the river. Arrangements have been made for changes.

Duties to
New South
Wales.

The imposition of heavy dues on the importation of certain articles has grievously affected the neighbouring colonies, by closing the port of Melbourne against their wine, timber, &c. The whole question of colonial tariffs has been referred to the Home Government, whose sanction has been given to the colonies collectively to regulate their duties as they think best. The establishment of one uniform tariff throughout Australia will be the commencement of a real Confederation, and stop many intercolonial jealousies.

Intercolo-
nial duties.

As to the protective policy of the Victorians, generally regarded as a retrograde movement, this is not the place to express an opinion. While opposed to the *free trade* of Europe, the colonists adopted it as beneficial to themselves. They seek not only to raise a revenue by

Protective
policy
arguments.

VICTORIA.Protective
law of 1871.List of
duties.

the customs, but to protect their own infant and struggling manufactures. The Customs for 1875 brought in £528,234*l.*, and £487,448*l.* in 1878.

The customs tariff has showed an increase of duties since August 2, 1871, when a more extended system of protection was established. In 1862, 8 articles paid duty.

A selection from the list of 1879 is here given:—

Per lb. or pint: Arrowroot, confectionery, preserved fruits, honey, jams, corn flour, preserved meat and fish, ground spices, bacon, biscuits, butter, cheese, glue, hams, mustard, soap, ammonia, oxalic acid, writing paper, starch, 2*d.*; glycerine, tea, coffee, cocoa, chocolate, chicory, hops, powder, acetic and picric acids, 3*d.*; shot and blasting powder, 1*d.*; dynamite and corks, 4*d.*; carbolic acid, printing ink, and gelatine, 6*d.*; gun cotton, 5*d.*; twine, 1½*d.*; chlorodyne, 1*s.* 4*d.*; snuff, 2*s.*; tobacco, 2*s.*; unmanufactured, 1*s.*; cigars, 5*s.*; opium, 10*s.* *Per cwt.:* Nux vomica, &c. 1*s.* 6*d.*; coir rope, 2*s.*; hempen cordage, 4*s.* 6*d.*; white lines, 8*s.*; nails, 3*s.*; horseshoe nails, 12*s.*; lead, 2*s.* 6*d.*; uncut surface paper, 3*s.*; sugar and molasses, 3*s.*; muriatic, nitric and sulphuric acids, 5*s.*; salted and dried provisions, 5*s.*; bags, 10*s.*; aloes, 12*s.* *Per 100 lbs.:* Paddy, 2*s.*; rice, pearl and Scotch barley, and oatmeal, 3*s.*; ground grain and pulse, 2*s.*; grain and pulse, 1*s.*; maize, 6*d.* *Per ounce:* Morphia, 1*s.* 6*d.*; silver plate, 1*s.* troy; and gold plate, 8*s.* *Per ton:* potatoes, 10*s.*; onions, 20*s.*; salt, 20*s.*; soda crystals, cast-iron pipes, and ground paints, 40*s.*; mixed paints, 80*s.*

Per gallon: Vinegar, carbolic acid, and mineral oils, 6*d.*; beer, 9*d.*; wine, 4*s.*; sparkling wine, 6*s.*; varnish, 2*s.*; spirits, 10*s.*; perfumed spirits, 20*s.*; methylated spirits, 1*s.* *Per cubic foot:* Earthenware and chinaware, 9*d.*; glass bottles and uncut glass, 6*d.*; glass shades, 2*s.* 6*d.*; dressed timber, 1*s.* 6*d.* per 100 super. feet; and hard wood, 9*d.* *Per dozen:* Flour-bags, 1*s.*; felt hoods, 5*s.*; pickle, pints, 1*s.* 6*d.*; pickle, quarts, 2*s.* 6*d.*; wool-packs, 3*s.*; harness saddle trees, 10*s.*; riding saddle trees, 20*s.*; quart bottles, 6*d.*; playing cards, 3*s.* dozen packs; boots and shoes, from 3*s.* to 25*s.* doz. pairs. *Per 100:* Palings and spokes, 6*d.* *Per 1,000:* Fire bricks, 20*s.*; laths, 1*s.*; shingles, 6*d.* *Per bushel:* Green fruit,

9d. ; malt, 2s. *Each*: Doors, 5s. ; sashes (pair), 2s. ; umbrella covers, 4d., 9d., and 21d. ; sheep, 6d. ; pigs, 2s. ; horses and cattle, 5s. *Per gross*: Smoking pipes, 6s. ; matches, if 100 matches, 6d. ; over 100, 1s. ; wax vestas, 1s. 3d. and 2s. 6d.

VICTORIA.

Duties.

Twenty per cent. *ad valorem* duty is charged on articles of apparel, chignons, blacking, bonnets, brownware, brushware, caps, earrings, carts, fireworks, frilling, furniture, coal, charcoal, hats, jewellery, agricultural implements, boilers, machinery (except for colonial manufacturers), manufactures of metals, mats, manufactured stationery, wrought marble and stone, musical instruments, oilmen's stores, saddles, harness, leatherware, silks, tents, tarpaulins, washing and other powders, wickerware and woodenware. Ten per cent. on silk pongees, mineral waters, carpets, clocks, combs, gloves, gold and silver leaf, gauze, leather, matting, perfumery, some oilmen's stores, plated ware, canary seed, springs for furniture, types, watches, woollen blankets and rugs, woollen piece goods.

Articles exempted from duty are the undescribed materials for making up of apparel, boots, hats, saddlery, and umbrellas ; also packages, ships' fittings, passengers' baggage, and works of art. Export duty on red-gum timber, 10s. per 100 super. feet ; and 60s. ton scrap iron. Excise on spirits made from malt or wine, 6s. per gallon, and from sugar or ale, 8s.

While some of these duties were intended for revenue purposes only, others were imposed for the protection of native industries. The former will fluctuate according to need ; and the latter according to policy.

Banks are flourishing institutions in the colony. The *Banks*. 1*l.* note is issued as in Scotland. Mr. Westgarth, the commercial historian of Australia, made the following comparison between the two countries some ten years ago :—

'In Scotland, as is well known,' he says, 'the note issues have all but superseded the use of gold coin, and yet the circulation is only 1*£l.* per head of population, while that of New South Wales is 2*£l.* per head, and of Victoria, 3*£l.* per head. The comparison is still more striking, from the circumstance that in these colonies there is no exclusive preference, as in Scotland, for notes

Victoria.

Melbourne mint.

Bank dividends.

Mortgages.

Savings' banks.

Building societies.

Post-offices.

Postal rates.

over metallic money, the latter being also in large circulation.'

The establishment of the mint in Melbourne may be justly expected to facilitate banking operations.

The twelve banks—Union, Australasia, Australian and European, New South Wales, Victoria, London Chartered, Melbourne ; English, Scottish, and Australian Chartered ; Oriental, Colonial, National, and Commercial —had, on December 31st, 1878, assets to the amount of 26,096,285*l.*, with liabilities of 17,715,866*l.* Their last dividends ranged from 9 per cent. to 12 per cent., averaging 10*½* per cent. on a capital of 9,078,847*l.*, the reserved profits at the time being 2,826,791*l.* The average dividend for the previous ten years was 10 per cent. The bank deposits, 1878, were 16,106,580*l.*

The mortgages at the end of 1878 were 9,655, upon land, stock, wool, &c., to the amount of 6,233,752*l.*

The eleven savings' bank of the colony showed a balance of 887,221*l.*, averaging 29*l.* 3*s.* 8*d.* for each depositor. The 173 post-office savings' banks had a balance of 652,089*l.*, averaging 13*l.* 10*s.* to a depositor.

The 62 building societies had assets 2,970,101*l.*, to liabilities 2,594,786*l.* The members were 21,404; the sums advanced, 703,932*l.*; the working expenses, 32,229*l.* The income was 1,097,475*l.*

The *Post Office* services are duly appreciated by the trading community of Victoria. The Melbourne Post Office building, for size, architectural beauty, and business convenience, is said to have no rival in the British dominions outside of London.

Though a private post-office existed in 1837, the first Government institution arose in September 1839, when a post-master was sent down from Sydney. The revenue for the year before was 150*l.* A letter overland from Melbourne to Sydney, taking three weeks in the journey, was carried for 15*d.*; the rate subsequently became 2*d.* A weekly mail was established in 1839.

There are now 1,000 post-offices in the colony, about one-third of which are money order offices. While a penny rate exists in towns, that through the country is 2*d.* Book packets are charged 2*d.* for 4 ounces. Newspapers require a penny stamp to be sent out of the colony. The P. and O. steamers start from Melbourne.

The telegraph rate, within the limits of the colony, is 1*s.* for ten words, and 1*d.* a word extra. For a message to Sydney or to Adelaide the cost is 2*s.* for ten words, but to Queensland 3*s.*, and to Tasmania, 6*s.*

The telegraphic line from Melbourne to Williamstown, begun in 1853, was the first laid down in the southern hemisphere. The Government had 3,000 miles of wire in 1865, and 5,500 in 1879.

Victoria, from having a larger proportionate area of good soil, suffered long from bad roads. At the early part of 1852, the bush road without metal commenced at the outside of Melbourne itself. Bad roads from Melbourne caused the Bendigo diggers to pay sometimes 150*l.* a ton for carriage alone.

Railways, boroughs, and road boards have changed that condition of affairs, and have given to Victoria the merit of having a system of communication superior, perhaps, to that of any country out of Europe. Stage coaches run also to almost all parts of the colony.

The Victorian railways were not constructed on the American but the English system, as to solidity and convenience. The cost of the first lines was enormous, owing to the price of labour. The later-formed iron roads have been made at a cost of only 5,000*l.* a mile; though 270 miles laid down before 1870 cost 10,164,000*l.* or nearly 40,000*l.* a mile; some since, but 4,000*l.*

The line to Echuca, on the Murray, 156 miles from Melbourne, passes through Sandhurst, formerly Bendigo, having a branch to Castlemaine. That from Melbourne to Ballarat, ninety-eight miles, passes through Geelong on its way. The one north-eastward, through Seymour and the Ovens District, to the Murray opposite Albury, has now been completed, giving 200 miles more railway traffic. Above 1,100 miles were open in 1879.

Lines are being extended from Ballarat northward, through rich mining and farming districts, and westward to Ararat. Another brings Maryborough in connection with Castlemaine. Sale, Portland, Hamilton and Warrnambool, will now have railways to the capital. Private companies have formed lines from Melbourne to St. Kilda, to Sandridge, and to Brighton.

The Government charges were moderate for Australia, being about 2*d.* a mile first class, and 1½*d.* second.

VICTORIA.

Telegraph rates.

First telegraph, 1853.

History of roads.

Railways on English system.

Lines formed.

New railways.

Railway fares.

VICTORIA.

River
steamers.

MANUFAC-
TURES.

Need of
manufac-
tures.

Protection
sought.

Effect of
change.

Ratio of
labour.

Bonus for
manufac-
tures.

Steamers run from Port Phillip Bay to the coast ports. The Murray has quite a fleet of steamers. From Albury to the western limit of the colony, the river is navigable for over a thousand miles, though the traffic is carried through South Australia down that stream for 750 miles farther. The Darling and Murrumbidgee trade is also very great.

MANUFACTURES have become the speciality of the Golden Colony.

For a long time it was urged that the people should content themselves with the production of the raw material, and buy cheap goods from other nations. They exported their wool and skins, receiving cloth and leather in exchange.

When the population increased, and the gold-fields ceased to employ growing numbers to advantage, labour was directed into other channels. Farms were made, and then workshops were opened. The very extension of agriculture developed manufactures.

A few years ago the cry of *Protection* was raised. Though shown that higher prices would be the result, the colonists said they were willing for a while to bear that evil, if they could sustain or originate trades for their rising families. There was not employment enough for lads on mines or stations, and the towns had but few factories. However political economists blame the Victorians for a short-sighted policy, they will admit the value of the motives governing them.

The result, for the time being, has been favourable. Lads have engaged in profitable toil, as well as girls and women. The Melbourne Immigration Agent has recently officially stated that 'Colonial made goods, of almost all descriptions, are fast taking the place of imported.'

In 1841 the manufacturing and labouring class in the colony formed 4·53 per cent. of the population, while the country, chiefly pastoral, rated at 42·83. In 1851, the former had advanced to 12·21 per cent. In 1857, the first stood at 11·33, in addition to the large amount gone to the gold-fields.

The Government commenced by a system of bonuses to those who should establish woollen, spinning, and other works. Later on, 5,000*l.* was offered to the first pro-

ducer of 500 tons of colonial-made sugar from beet root. Then partially protective duties were followed by the more strictly protection policy of 1869. Encouragement was officially given for the manufacture of glass, paper, pianos, starch, brushes, soap, stearine candles, cigars, dyes, &c.

On March 31, 1879, there were 8 piano, 6 philosophical instrument, 8 truss, 2 essential oil, 44 agricultural instrument, 10 machine tool, 46 engine, 139 carriage, 2 varnish, 71 boot, 63 clothing, 10 biscuit, 19 hat, 23 cheese, 2 maizena, 5 sauce, 16 tobacco, 1 spectacles, 13 bone manure, 3 earth closets, 6 brush, 7 glue, 1 paper, 7 glass, and 2 rice factories ; also 6 statuary, 12 turnery, 23 lime, 40 cabinet, 13 dye, 5 salt, 15 rope, 9 confectionery, 2 macaroni, 104 ginger-beer, &c., 31 vinegar, 31 soap and candle, 174 chaff and crushing, 4 modelling, 15 cooperage, 4 asphalte, 17 gas, 26 marble, 5 electro-plate, 2 antimony, 70 iron and tin, and 2 lead works. There were 6 manufacturing stationers, 2 organ-building, 4 diesinking, 8 gun-making, 17 ship-building, 15 meat-curing, 6 distilling, 18 malting, 19 boiling-down, 11 wool-washing, 118 tanning, 145 saw-milling, 19 jewellery manufacturing, 1 type foundry, 91 metal foundry, and 9 wire-working establishments ; besides 4 graving docks, 1 patent slip, 102 breweries, 149 flour mills, 198 brickfields and potteries, 132 quarries, 5 chemical works, and 9 woollen mills. In 2,343 manufactories, works, &c., 22,948 men and 5,455 women were employed. The buildings and plant were valued at 6,798,635*l.* The agricultural machines alone were valued at 2,025,916*l.* In 1878, 147 patents were applied for. Ten years ago the works were 1,106. The Water Works, storing 12,663,000,000 gallons, cost 3,386,517*l.*

Land Laws and Immigration.

LAND
Laws.

Land laws and immigration are two subjects necessarily connected with each other. In most places it is the liberality of the land laws which attracts the population.

In Victoria, the land hunger was not experienced until after a large population had been attracted by the gold, and a demand arose for cheaper food. The early immigration was almost entirely a pastoral one. When the first European stream arrived, in consequence of

Land
hunger.

VICTORIA.

Land sales suspended for some years.

Unlock the lands.

Orders in council.

Settled, Intermediate, and Unsettled districts.

Leases in each.

People got the rule of public lands.

the glowing descriptions of Australia Felix, by Major Mitchell, the cry for lands was met by the sales of the Government.

During 1838, 1839, 1840, and 1841, about 226,000 acres were thrown into the Melbourne and Geelong markets. But during double the number of years, between 1843 and 1851, only about half that amount was exposed for sale. The country was taken up by the Crown lessee squatters, even to the suburbs of Melbourne and Geelong.

'Unlock the Lands!' became the political watchword after the diggings commenced. A few hundred men monopolised with their flocks and herds almost the whole of the colony, and barred the entrance of the agriculturist.

The attempt of Sir George Gipps and his Sydney Executive Council, to place some restrictions upon the extension of the pastoral interest, seemed set aside by the triumph of squatterdom, in the celebrated *Orders in Council* of 1847.

These decrees of the English Ministry gave a certain fixed tenure to pastoral tenants of the Crown, and yielded to them vast tracts of country at a mere nominal rental. All lands were divided into *Settled*, *Intermediate*, and *Unsettled* districts. While leases for fourteen years were issued for land in the last division, they were but annual in the first.

The *Settled* part was pronounced within twenty-four miles of Melbourne, fifteen of Geelong, and ten of Portland and Alberton. The *Intermediate* comprehended the counties of Bourke, Grant, and Normanby. The *Unsettled* came beyond that boundary, and therein the payment was fifty shillings a year for every thousand sheep grazing, and a secure hold for fourteen years.

The influence of *wool lords* in the Colonial Parliament was all paramount. But, in answer to complaints from others, the Home authorities gave a more liberal interpretation to the reading of the *Orders in Council* in 1853. With the granting of a free constitution in 1855, Victoria, like the other colonies, obtained the right of controlling the administration of the public lands.

Pressed, however, by the voice of the people and the reiterated demands of the press, the colonial rulers had before this partially released their hold upon the soil.

In the four years, from 1852 to 1856, over a million and a quarter acres were sold.

The demand exceeded the supply. The upset of 1*l.* an acre was considerably overreached by competition at auction. Relief came with the Land Act of 1862, when the fourteen years' leases expired. The price then realised was only a trifle over the 1*l.* upset, owing to the enormous amount of land thrown open, there being that year sold 844,969 acres.

Another lull followed. Vigorous complaints were raised against the inefficiency of the land regulations, and the need of more liberality on the part of the Government, to induce men to settle on the public lands.

This led to some distinguished changes by the Land Law of 1869. The sales, which had fallen, in 1867, down to 129,333 acres, grew, in 1869, to 794,543, which realised 827,534*l.*, fell to 323,081 acres in 1877.

After all, only one-fifth of the public lands had been sold by the beginning of 1879. Of the total acreage of the Colony, 56,446,720 (88,198 square miles), 11,458,684 had been alienated, and 44,988,086 acres were still in the hands of the Government, to be leased out to squatters and others. Up to 1878, 4,787,784 acres were leased to farmers, with a right of purchase. In 1878 the holdings were 45,448; the purchased freeholds were 8,524,000 acres, and by rental, 1,495,142; or, not pastoral, 14,806,926.

The leading provisions of the Land Law of 1869 will now be mentioned. Amendments made in 1878 are herein noted.

The squatters were less favourably situated, while exposed to more active competition. They could make no claim to improvements, allowed by the law of 1862, unless presented before 1871; and no compensation would be allowed by reason of the new Act being afterwards repealed or altered. Any portion of their runs might at any time be taken from them, to be proclaimed a *Common*. No occupier of a run was permitted to enter upon competition with the agriculturist, as he could once do, since the sales of produce raised upon such leased land exposed him to a heavy penalty.

Existing occupiers of runs were to have henceforth yearly licenses, at rents to be determined according to

VICTORIA.

Land Act
of 1862.

Land Act
of 1869
more
liberal.

Four-
fifths of
land unsold.

New squat-
ting regu-
lations.

Rent not
fixed.

VICTORIA.

New
licenses.

Timber and
stone
licenses.

Rates of
payment.

Wood-
splitters.

Govern-
ment land
fees.

Rights to a
common.

Land sales.

820 acre
leases 2s. an
acre.

the quality of the land. For every sheep they paid 8d. a year, and for every beast 4s. A readjustment might be made five years after.

New runs, or forfeited ones, are submitted to public auction for the higher premium upon the rent fixed by the local board. Though nominally a license for fourteen years, the whole or part of a run may be at any time taken by the Government if required for common use, lease, or sale for agriculturists, or for any other public purpose.

Licenses for public lands may be obtained to take away timber, stone, seaweed, earth, guano, etc. Three acres of land, for some such purposes, can be had for twenty-one years, at a rent of not less than 5*l.*

Those who cut the common Eucalyptus timber pay 2*l.* to 5*l.* a year for a license, according to the distance from a town. Log waggons pay from 10*l.* to 16*l.* licenses. Saw mills are charged, on Crown lands, 10*l.* a year. No trees must be cut which are less than a certain girth. For the felling of pines, blackwood, and other more valuable timber, the rate for licenses is increased. Wood-splitters pay 4*l.* a year for a license by the law of 1872.

The fee for the removal of guano, brick clay, or stone is 10*l.* a year; but for limestone 25*l.* The usual fee for the erection of a slaughter house is from 10*l.* to 50*l.*; for shipbuilding, a tramway, factory, or paper mills, 10*l.* to 50*l.* For other buildings on Crown lands the usual payment is from 10*l.* to 50*l.*

Land may be proclaimed as a *Common*, for the grazing rights of neighbouring farmers. It is placed under the management of a borough, shire council, mining board, or road board in the vicinity.

Land sales take place every quarter, or oftener. Purchasers pay one-fourth cash, and the balance in a month. Under certain circumstances, after repeated failures at public sales, land may be reduced in upset below the pound an acre.

Land leases are now obtained on most advantageous terms.

An applicant for an area, not exceeding 320 acres, must deposit half a year's rent when making the application. If successful, he receives a *license for occupation*.

extending over six years, and subject to the annual charge of 1s. an acre.

He must, however, fulfil the following conditions:—Be resident thereon, enclose the whole farm, and cultivate one-tenth of the land during the term of six years. Unless the substantial improvements are of the value of 1l. per acre, he fails to receive the full advantage of his possession.

At the end of the sixth year, and after satisfactory fulfilment of the required conditions, two courses are open to the tenant. Should he elect to purchase his farm, and so receive the Crown grant for the land, he has but to pay the balance of 14s. an acre.

He may however, prefer to extend that balance payment over a longer time. A lease for fourteen years is granted him, at the continued rental of 1s. an acre.

The purchase-money, therefore, is but 1l. an acre, and can be paid in the form of 20 annual rentals of 1s. each, when the full purchase is complete, and the land is freehold.

Those who held leases of agricultural land under the Land Act of 1865 were generously placed under the liberal Act of 1869.

In 1878, not less than 4,787,784 acres were leased at the 2s. an acre rent. More were rented otherwise.

Of the 56,446,720 acres in Victoria, 11,458,634 were alienated in 1878, and 19,531,083 leased by Government to 768 squatters. There were but 4,326 land-holders in 1856, and 47,050 in 1879. Only 34,816 acres were cropped in 1854, but 1,609,278 in 1879. Of recent selected land, 576,063 acres were in Borung.

By a recent Act, the selected area may be 640 acres, and improvements to the value of 10s. an acre must be made on every acre above 320.

The prices of country land for the year ending December 31, 1878, averaged 1l. 4s. 5d. an acre.

IMMIGRATION has been rather free than assisted in Victoria. People have flocked thither without aid from the Colonial Government. The first ship out from London, the 'Bryan,' 500 tons, advertised as 'affording settlers for this flourishing colony an opportunity of proceeding there at once.'

Until 1851, when forming a part of New South Wales, it came in for a share of bounty immigrants.

VICTORIA.

Conditions of license.

Right in six years.

Extended lease.

The rental is a purchase.

Transfer of lease.

Acres leased out.

Land-holders.

Land occupied and enclosed.

Selected area may now be 640 acres.

Price of land.

IMMIGRATION.

First emigrant ship.

Bounty and female immigrants.

VICTORIA.

Passage warrants by pre-payment.

After the *Separation*, a vigorous attempt was made to introduce more females, as the male immigration, especially at the gold-fields rush, was far in excess of the female.

Subsequently, instead of the old system of transmission of emigrants from Great Britain, colonists were granted facilities for getting out their friends, or others, by 'passage warrants.'

The colonial prepayment for a male friend was 4*l.* if under 15 years; 8*l.*, between 15 and 40; and 9*l.* above 40 years. The prepayment for a female assisted immigrant was, for those three periods, 3*l.*, 4*l.*, and 5*l.* Persons so named in warrants obtain a free passage to the colony. The balance of the passage-money is paid by the State.

Free and assisted passengers.

For the seven years after the *Separation*, in 1851, while 376,000 paid their own passage, 76,000 were assisted out. Between 1838 and 1860 the assisted immigrants were 47,951 males, and 66,908 females. In the bad year of 1843 only 13 were so introduced, though in 1841 not less than 8,000 were assisted thither. The largest number, 16,318, were sent out in 1854. In 1878 only 366*l.* was paid on State immigration. While 42,268 entered, 37,492 left the colony in 1878.

Not so many facilities granted. Prices moderate.

In other colonies wages may not be so generally high, and the provisions so cheap, but more facilities are given to those desiring to emigrate from Europe.

Prices, however, are decidedly lower than in others of the Australian colonies. Manufactured and imported goods are cheaper. Clothing is very slightly above the English standard, while boots are stronger and cheaper. For a time certain articles were enhanced in value, owing to the protective policy of the colony; but competition among local makers, with improved appliances, and the possession of the raw material, have much reduced charges upon manufactures.

Wages.

Wages fluctuate but little. According to returns of March 31, 1879, stockmen upon stations received rations and an average salary of 47*l.* 5*s.*; shepherds had rations and 34*l.* 1*s.*; married couples, rations and 61*l.* 2*s.*; female servants, 27*l.* 16*s.*; and ordinary labourers, their rations and an average of 17*s.* 8*d.* a week. Ploughmen, mowers, reapers, sheepwashers, and sheepshearers, received a much larger pay.

The official report of January 3, 1873, shows wages not fallen off of late. The following extract gives the average wages at that time:—

VICTORIA.

Wages.			Wages with or without rations.
Married agricultural labourers.	50 <i>l.</i> to 60 <i>l.</i> per annum with rations		
Single	15 <i>s.</i> to 20 <i>s.</i> a week	"	
Boys (13 or 14) on stations	5 <i>s.</i> to 6 <i>s.</i>	"	
Butchers	40 <i>s.</i> to 60 <i>s.</i>	"	
Brassfounders	11 <i>s.</i> to 14 <i>s.</i> a day without rations		
Bookbinders	60 <i>s.</i> to 80 <i>s.</i> a week	"	
Bakers	35 <i>s.</i> to 60 <i>s.</i>	"	
Brewers	40 <i>s.</i> to 80 <i>s.</i>	"	
Brickmakers	6 <i>s.</i> to 8 <i>s.</i> a day	"	
Bricklayers	8 <i>s.</i> to 10 <i>s.</i>	"	
Bricklayers' labourers	6 <i>s.</i> to 7 <i>s.</i>	"	
Blacksmiths	8 <i>s.</i> to 12 <i>s.</i>	"	
Bullock drivers for road	40 <i>l.</i> to 50 <i>l.</i> a year with rations		
Bush carpenters			
Carpenters	8 <i>s.</i> to 10 <i>s.</i> a day without rations		
Coopers			
Coachbuilders	10 <i>s.</i> to 12 <i>s.</i>	"	
Coach painters	10 <i>s.</i> to 14 <i>s.</i>	"	
Coachmen and grooms.	15 <i>s.</i> to 20 <i>s.</i> a week with rations		
Compositors	1 <i>s.</i> to 1 <i>s.</i> 1 <i>d.</i> per thousand		
Engineers	12 <i>s.</i> to 14 <i>s.</i> a day without rations		
Glaziers and painters	7 <i>s.</i> to 10 <i>s.</i>	"	
Gardeners	7 <i>s.</i> to 10 <i>s.</i> a day with rations		
Saddlers	7 <i>s.</i> to 12 <i>s.</i>	without rations	
Ironfounders	10 <i>s.</i> to 14 <i>s.</i>	"	
Labourers (town)	6 <i>s.</i> to 7 <i>s.</i>	"	
" (country)	12 <i>s.</i> to 20 <i>s.</i> a week with rations		
Millers	8 <i>s.</i> to 14 <i>s.</i> a day without rations		
Masons	8 <i>s.</i> to 12 <i>s.</i>	"	
Millwrights and engineers	10 <i>s.</i> to 16 <i>s.</i>	"	
Miners	6 <i>s.</i> to 8 <i>s.</i>	"	
Pressmen	70 <i>s.</i> to 80 <i>s.</i> a week	"	
Plasterers and plumbers	8 <i>s.</i> to 10 <i>s.</i> a day	"	
Shoeing smiths	50 <i>s.</i> to 70 <i>s.</i> a week	"	
Storemen	40 <i>s.</i> to 60 <i>s.</i>	"	
Shopmen (drapers)	60 <i>s.</i> to 80 <i>s.</i>	"	
Shearers	14 <i>s.</i> to 16 <i>s.</i> per 100 with rations		
Shepherds	25 <i>l.</i> to 35 <i>l.</i> a year	"	
Shipwrights	10 <i>s.</i> to 14 <i>s.</i> a day without rations		
Stonebreakers	2 <i>s.</i> 6 <i>d.</i> to 4 <i>s.</i> per cubic yd.,		
Tailors	45 <i>s.</i> to 50 <i>s.</i> a week	"	
Tin and iron plate workers	8 <i>s.</i> to 10 <i>s.</i> a day	"	
Turners	40 <i>s.</i> to 50 <i>s.</i> a week	"	
Upholsterers	8 <i>s.</i> to 12 <i>s.</i> a day	"	
Watchmakers and jewellers	10 <i>s.</i> to 14 <i>s.</i>	"	
Wheelwrights	8 <i>s.</i> to 12 <i>s.</i>	"	
Whitesmiths	8 <i>s.</i> to 10 <i>s.</i>	"	

VICTORIA.

	<i>Females.</i>
Cooks and laundresses .	30 <i>l.</i> to 35 <i>l.</i> a year with rations.
Farm servants .	20 <i>l.</i> to 25 <i>l.</i> " "
House servants (general) .	25 <i>l.</i> to 30 <i>l.</i> " "
Laundresses .	30 <i>l.</i> " "
Milliners .	20 <i>s.</i> to 30 <i>s.</i> a week "
Nurses .	35 <i>l.</i> to 40 <i>l.</i> a year "
Nursery maids .	15 <i>l.</i> to 25 <i>l.</i> " "
Dressmakers .	3 <i>s.</i> a day "
Waitresses .	25 <i>l.</i> to 30 <i>l.</i> a year "

Wages in 1880.

The 'Melbourne Argus' early in 1880 gave wages of housemaids at 25*l.* to 30*l.*; cooks, 35*l.* to 60*l.*; governesses, 30*l.* to 80*l.*; farm hands, 20*s.*; married couple on stations, 70*l.* to 90*l.*, but with children, 50*l.*; all these have board and lodging. Then bricklayers had 10*s.* a day; stonemasons, 10*s.*; carpenters, 10*s.* or 11*s.*; lumpers, 12*s.*; ship carpenters, 13*s.*; and labourers, 7*s.*; the day being eight hours. By the week, miners had 40*s.* to 45*s.*; engineers, 60*s.* to 78*s.*; saddlers, 55*s.*; turners, 40*s.* to 60*s.*; tailoresses, 20*s.* to 35*s.*; coachbuilders, 50*s.* to 65*s.*; jewellers, 55*s.* to 75*s.*; watchmakers, 4*l.* to 5*l.*; seal engravers, 6*l.* to 8*l.* Navvies had 9*d.* an hour; tailors, 10*d.* an hour; and printers, 1*s.* per thousand.

Provisions.

Provisions are very cheap. Bread is usually 5*d.* or 6*d.* the 4-lb. loaf; meat, 3*d.* to 5*d.* per lb.; fresh butter, 9*d.* and upward. Clothes, especially boots, are better and very little dearer than at home.

HINTS.**Hints to the intending Emigrant to Victoria.**

While every colony has its own distinctive advantages, and appeals with confidence and success to a particular class of persons, Victoria has won the favour of some by that very progressiveness which repels others from its shores. It grows every day less colonial in the general acceptation of that term, and correspondingly assumes the aspect of a European nation.

Compared with Queensland and New Zealand, it is quite English in its style. Even compared with New South Wales, it is a-head in respect to intellectual exponents, commercial activity, and old-world life.

Victoria compared with other colonies.

What pursuits are and are not successful.

Pursuits, therefore, most favourably carried on in the land of unoccupied acres and ill-populated cities, are less adapted to the present circumstances of Victoria.

But those demanding a more settled condition of society, a larger assemblage of people, and a greater accumulation of money, must needs have a better chance in the faster-going and wealthier colony.

It is these considerations that must influence the thoughtful emigrant.

Of course, Queensland can have no competition in sugar-growing and squatting; New Zealand, for feeding stock on artificial grasses; and Tasmania, for a cool and quiet home. But Victoria claims to satisfy all comers but sugar-growers and cheap-renting wool-growers. It is, however, for the intending settler to see if his own views can be better met there.

The land is limited and occupied. Where there are no towns, there may be farms; and where no farms, there will be stations. There is no back country to offer on easy terms to stockmen. Runs exchange hands at ever-increasing rates, and station life is rapidly losing all its old semi-barbaric character.

But while the pastoral immigrant has to treat privately for flocks and herds, the agriculturist can go still to the Crown Lands Office for a farm. The country is yet open to him, and millions of acres of splendid soil are available for selection on very easy terms. To Victoria is due the merit of first unlocking the lands for the benefit of farmers.

No doubt is entertained as to the remunerative return for capital invested in Victorian stations, in spite of the enormous sums paid for them. Wool of a heavier quantity and superior quality can be produced there, while carcase meat fetches a higher price.

The question of reward for the toil of cultivation is a debated one in England as well as in the Colonies. Pictures of Eden by a Dickens, and of a Cockatoo farmer by a Trollope, though overdrawn, have much reliability about them. The selection of an isolated homestead, far away from civilised advantages, and even from a good market, may be dear, while apparently cheap. The crowding of farms, again, even though judiciously situated for the sale of produce, may subject their holders to a competition that leaves but small margin of profit.

Victoria farming has neither the isolation of the one case nor the crowding of the other. It is of much con-

VICTORIA.

Victorian not
for all
classes.

No pastoral
room.

Room for
farmers.

Stations
pay well.

Care where
to choose a
farm.

Style of
Victorian
farming.

VICTORIA.

sequence to a man with a family that he have a church and school within hail for his children, and a ready access to a newspaper for himself. All this can be got there, as well as a fair road and a fair market.

The style of farming is between the rough-and-ready system adopted in South Australia or New South Wales, and the scientific mode of the Lothians. The land is so good that it will pay for attention, and ruling prices will pay for careful culture. As may be seen under the head of Agriculture, Victoria is a-head of the other colonies in the use of manures and the employment of machinery. It is, therefore, the more necessary for a man to know something about farming, before venturing to compete with the shrewd and energetic grower there.

Great facilities exist for getting on to the land. But the selector need look to something more than the soil. The gradual extension of railways, and the admirable arrangements of Road Boards, are highly favourable to settlements. But, while looking out for a market, a judicious man will look to his crops.

Victoria, being more advanced than other colonies, can have a use for productions not getting a sale beyond its borders. High farming and the culture of luxuries for the table, as well as raw material for the manufactory, will, consequently, pay better. Farmers there, while having no customs' favour for all their produce, were ever active supporters of the so-called *protective policy*. They regarded it from their own standpoint as a means for developing local trade, and so utilising articles which they might then raise to advantage, in addition to the prospect of having an increase of consumers by the erection of workshops in towns.

The remarkable development of farming lately has brought all spare labour into active exercise. There are many men who work at their trades in towns for the greater part of the year, but go through the country to help at harvest and sheep-shearing. The colony could easily absorb a large importation of farming hands, and this at the highest colonial rates.

The best farmers find it profitable to raise stock of the best breeds, and have their market among squatters, with whom they could not expect to compete in wool-growing or meat-producing. The man with sufficient

Experience
necessary
there.

Farmers for
protection.

Farm la-
bourers
wanted.

Stock-rais-
ing pays.

capital and experience to start a farm for such an object as this has a promising future in Australia. Stock-holders have discovered the necessity of improved breeds, and will pay handsomely for them.

As a mining country, although almost exclusively confined to gold, Victoria pursues the most scientific and effective methods for the extraction of metal. It is no longer a *poor man's diggings* country. Intelligence and capital are essential to success. But large companies require skilled workmen, as engineers, etc., and the professional aid of mining surveyors. Investors, if able to form a judgment upon mines, and prudent in personal examination of the manner of conducting such enterprises, may have therein a remunerative return for their capital.

Melbourne, Geelong, Ballarat, and other large centres of population have favourable opportunities for commercial operations. With far less speculation than previously known, there is a slower advance, but a more reliable hope of success in the future.

Some towns present a type of civilisation which would astonish a new comer from Europe, and give him more confidence in his own mercantile venture there. Not only are the streets macadamised and lighted with gas, but the banks, halls of commerce, and stores attest the stability, as well as the growth, of trade. Ballarat, Castlemaine, and Sandhurst, dating their origin from the gold discovery, have social, educational, and religious advantages superior to those known in English towns six times their size. Melbourne is, at least, as much favoured in this respect as Birmingham, Manchester, Liverpool, or Glasgow, while healthier than they. An idea of the wealth of the colony may be gained from the fact of Melbourne land being sold in 1873 at the rate of 51*l.* per foot frontage.

Manufactures form the most tempting bait for immigrants.

The colony can find employment for a greater number of trades than could be expected from places not so advanced in manufactures. It can also calculate upon an extension of this circle of trade, as new industries are being successfully established. These, in their turn, give employment to other classes of labour. While manufac-

VICTORIA.

Not poor
man's dig-
gings now.

Mining
there re-
quires skill
and capital.

Commer-
cial pros-
pects.

Town
civilisation.

Future for
manufac-
tures.

VICTORIA.

tures thus afford good prospects for labour, they promise the most certain return for capital. With a graving dock 475 feet long, costing 342,000*l.*, the colony shows its faith in the future commerce of the country. The new Melbourne Company for the colonisation of New Guinea shows the enterprise of the people.

Mr. Trollope on Victoria.

Victoria has secured a vantage ground in these industries, which it is likely to maintain even without a development of its coal-fields. Mr. Trollope was struck with the appearances of prosperity there. 'It is to be seen,' he says, 'in the daily lives of the colonists, in the clothes which they wear, in the food which they eat, in the wages which they receive, in the education of their children, and in the general comfort of the people.'

SOUTH AUSTRALIA.

Discovery.

THOUGH the Dutch navigators discovered Tasmania and Western Australia, Englishmen made known the shores of South Australia, Victoria, New South Wales, and Queensland.

On January 28, 1802, Capt. Flinders, in the *Investigator*, sailing eastward from King George's Sound, came to the western boundary of the South Australian Colony. He gave names to Fowler Bay, Port Lincoln, St. Vincent's Gulf, Spencer's Gulf, and Yorke Peninsula.

Kangaroo Island was so called from the number of mild-eyed marsupials there, that were supposed by the seamen to mistake them for seals, while the seals, as simply, seemed to fancy our countrymen to be kangaroos. This unsuspecting gentleness was soon rudely disturbed.

After Flinders had surveyed seven-eighths of the new coast, he encountered a strange vessel in those strange waters. This was the French exploring expedition of Admiral Baudin, going north-westward from a long sojourn in Van Diemen's Land. The meeting gave rise to the name of Encounter Bay.

Although the French only discovered the shore between long. 139° and $140\frac{1}{4}^{\circ}$, they took advantage of Flinders being kept for six years a prisoner of war in the Isle of France, and, by Imperial command, laid claim to the discovery of all that the English captain had seen before them. The country was announced as Napoleon Land, and the two gulfs were known as Bonaparte and Josephine. The historian and naturalist of the voyage, M. Peron, keenly felt the disgrace of thus seeking to rob the honest sailor of his right. Flinders had no sooner published his work than the story was fully appreciated, and the Imperial claim disallowed.

Though a party of sailors soon established themselves on Kangaroo Island, yet no attempt at settlement was made upon the mainland.

SOUTH AUSTRALIA.

Flinders,
1802, dis-
covered
South
Australia.

Met the
French.

French
claimed the
country
theirs by
discovery.

Napoleon
Land.

**SOUTH
AUSTRALIA.**

**Sturt on
the
Murray,
1830.**

**Barker,
1831,
inland
explorer.**

**Eyre at
Lake Tor-
rens, 1840.**

**Eyre over-
land to
King
George's
Sound,
1840-41.**

**Sturt in the
desert,
1845.**

**Good land
near the
desert.**

**Burke and
Wills at
Cooper's
Creek,
1861.**

In 1830, Capt. Sturt, who had previously discovered the Darling River of New South Wales, undertook a trip to the south-west of Sydney. He crossed the track of Messrs. Hume and Howell, rowed down the Murrumbidgee to the Murray, and followed the course of the latter stream to the sea. In this way he entered upon a part of South Australia, and saw the hills overshadowing the plain of Adelaide.

In 1831 Capt. Barker was sent to explore this hill-country, and gave his name to one of the finest mountains. Unable to cross the surf-bound mouth of the Murray, he swam over to the other side; and there was speared by the natives, whose women had been stolen by the bad whites on Kangaroo Island.

In 1839 and 1840 Mr. Eyre, afterwards Governor Eyre of New Zealand and Jamaica, undertook important explorations. He visited Lake Torrens, and made the wonderful journey overland from Port Lincoln to King George's Sound, a distance of 1,200 miles.

His only white companion was murdered; and, accompanied only by Wylie, a black, he continued his perilous way. On two several occasions his horses had to travel an entire week without water, and were unable to carry more than a few pounds weight of stores. He left Adelaide in June 1840, and reached the Sound in July 1841.

Among subsequent explorations, that of Capt. Sturt's in 1845 deserves to be mentioned. After following up the Murray to the Darling, he struck off into the north-western interior. In the Great Stony Desert he suffered considerably from the heat and drought, though he came to a fine sheet of water at Cooper's Creek.

When Mr. A. C. Gregory was on his expedition, after Leichhardt, in 1858, he came to Sturt's Desert, and saw the country subject to inundation. Mr. McKinlay suffered much from the flies near the well-grassed flats by the beds of dry lakes. He found the desert bounded by a beautiful country, frequented by pelicans and pigeons, while crowds of natives lived on the margins of lakes. Floods detained him long in the neighbourhood of the Desert.

It was within South Australian territory, at Cooper's Creek, that Burke and Wills perished from exhaustion, after crossing the continent in 1861. Mr. Gregory, ac-

companied by Dr. Mueller, botanist, explored part of the northern territory in 1856, by the Roper and the Victoria.

Mr. John McDouall Stuart, a companion of Capt. Sturt in 1845, made three trials to cross the continent from Adelaide, and did not succeed till 1862. One time he was arrested by an attack of the natives, and at another he was turned by a dense scrub.

Country to the north and west of Adelaide was explored by Major Warburton, Colonel Freeling, and Messrs. Babbage, Hack, Goyder, Howitt, Delisser, and Giles. Fair pastoral localities were thus revealed. The country about Lake Torrens was proved to be a depressed basin. Mr. Gosse explored in 1872. Colonel Warburton crossed to Western Australia from the centre of the Continent in 1873-4. Rich soil was found in 1878 on the Queensland side of Northern Territory.

SOUTH AUSTRALIA.

Northern Territory.

Stuart's three trials to cross the Continent.

Other explorers.

History.

HISTORY.

So satisfactory was the story of the climate and soil of the new land, especially after Capt. Sturt's row upon the Murray, that an attempt at getting up a Colonisation Association was made as early as 1831. A charter was granted by Parliament to a company, in August, 1834. While the Governor was to be appointed by the Crown, a Commissioner was to represent the London Association in South Australia.

Charter to company, 1834.

The leaders of this Wakefield system of colonisation were Messrs. Torrens and Angas. Free emigrants were to be sent out with money raised by selling colonial land in England. The Commissioners in London were empowered to borrow 200,000*l.* on the security of future taxes. What the East India Company had been in Asia, this Association was to be in Australia. The grant of land was from long. 132° to 141° , to be divided as the Commissioners desired. If 20,000 persons were not settled there in ten years the Crown could resume the estate; but should there be 50,000, a local government must be formed.

Wakefield system.

As an earnest of good faith, the Commissioners were required to make a deposit of 20,000*l.*

Grant from 132° to 141° .

When the gentlemen were not ready with the cash, Messrs. Torrens, Angas, and Gouger undertook to advance it, upon some concessions being made to a trading

Commissioners of South Australian Association.

**SOUTH
AUSTRALIA.**

**South
Australian
Company.
Colony set-
tled 1836.**

**Adelaide
land sold
March,
1837.**

**Failure of
the Asso-
ciation.**

**Crown
Colony
1841.**

Prosperity.

**Burra
Burra.**

**Safe and
happy
colony.**

**GEOGRA-
PHY.**

**Mistaken
name.**

company they were to organise. This South Australian Company bought a large amount of land from the Commissioners at 12*s.* an acre, to sell again at 20*s.* in 80-acre sections.

The Association raised their capital, appointed Mr. Fisher their Resident Commissioner, and sent off surveyors and emigrants. Capt. Hindmarsh was appointed the Governor. Arriving December 28, 1836, he proclaimed the Colony.

Kangaroo Island was the first attraction, but was found barren and riverless. The whole party then moved to St. Vincent's Gulf, and formed Adelaide; the first lands there being sold in March, 1837.

The early history of this private Colony was one of wild speculation and unbounded faith. Governor Gawler, who came in 1838, foresaw such greatness that his public works were constructed on a gigantic scale. The settlers neglected farming for the more profitable labour of land jobbing. Flour rose to 100*l.* a ton, Government bills on England were dishonoured, and State and colonists were wrecked in credit.

The English Parliament came to the rescue. The Commissioners, upon the receipt of 200,000*l.*, resigned their charter in 1841, and South Australia became a Crown Colony. The advance was to be repaid from local taxation. Governor Grey, who succeeded Mr. Gawler, was wise in administration, the settlers were prudent in enterprise, and a few years after the Colony was the most prosperous in Australia.

The Burra Burra and other copper mines showed the vast mineral wealth of the province; the plains were easily cultivated; and the pastures, in spite of a dry climate, produced excellent wool.

Although the blaze of golden glory in Victoria drew off much of the population in 1851 and 1852, yet the steady habits of the people of Adelaide, their admirable patriotism, and their successful energy, have raised South Australia to be one of the most comfortable homes in the world.

Geography and Climate.

South Australia is a misnomer for the land governed from Adelaide. No part is so southern as the coast of

its neighbour, Victoria ; whilst its Northern Territory advances far into the tropics. It was so named, however, before Port Phillip was settled, and when it was expected by the London Commissioners of the Company that the boundary of the private colony would be extended towards Cape Howe.

The original area was 300,000 square miles, extending southward from lat. 26° S. to the sea, and from the boundary of Victoria, long. 141° E., to long. 132° E. The strip of land between 132° and 129°, 'No Man's Land,' by Western Australia, was added in 1861. The area then became 380,070 square miles.

In 1863, following the year when South Australian enterprise opened up North Australia from the interior, by the discoveries of Mr. Stuart, the vast region north of lat. 26° to the tropical seas was placed under the Adelaide Government. Since the addition of the northern territory, South Australia has become one of the most extensive of the Colonies, having an area of 903,690 square miles ; being nine times the size of New Zealand or Victoria.

Though a large part of this space is scarcely yet fitted for occupation, being dry sand or scrub, yet Mr. Dutton, the Agent General, was right in observing, that 'this scrub bids fair to turn out the most valuable of any part of the Colony, all the rich mines having been discovered in precisely that sort of ground described as rocky and scrubby.'

Mountains.

The country is decidedly flat as compared with the eastern Colonies. One chain extends from Cape Jervis northward to the Lake Torrens country. It is variously called, Lofty Range, near Adelaide ; and beyond that, the Barossa, the Belvidere by Kapunda, the Bryan by the Burra Burra, and Flinders northward.

Of the peaks of that chain, Terrible is 1,300 feet ; Barker, 1,700 ; Gawler, 1,800 ; Crawford, 1,900 ; Torrens, 1,900 ; Horrocks, 2,000 ; Kaiserstuhl, 2,000 ; Lofty, 2,300 ; and Bryan, Remarkable, Razorback, Brown, and Arden, each about 3,000 feet.

Mount Hopeless is near Lake Torrens, and Newland by Encounter Bay ; the Stanley and Grey Barrier ranges

SOUTH AUSTRALIA.

Area and boundaries.

No Man's Land.

Northern Territory added.

Area now 903,690 square miles.

Rich mines in the worst country.

Mountains.

SOUTH
AUSTRALIA.

are on the side of New South Wales. The Gawler chain is in Port Lincoln Peninsula. The volcanic craters of Gambier, Schanck, Muirhead, &c., are near the Victoria boundary to the south-east.

Among the hills on the overland route to Port Darwin are the Denison, Macdonnel, Murchison, and Ashburton ranges; with Mounts Barkly and Leichhardt, near Stuart's Mt. Centre. Musgrave is N. of Fowler's Bay.

Rivers.

The Murray is about the only stream always flowing into the sea, though a bar is at its mouth. The Adelaide Torrens is usually lost in a reedy swamp. Others are lost in sands, though a few fall into the salt lakes.

North of Adelaide are the Gawler, Light, Burra, and Broughton. South of it are the Yankalilla of Rapid Bay, the Sturt, Bremer, Angus, Onkaparinga, Hindmarsh, and Inman. The Wakefield is at the head of Gulf St. Vincent.

The Torrens basin receives the Frome, Neales, Blanchewater, Strzelecki Creek, and Cooper's Creek. A number of streams crossed by Stuart in the Interior have not been explored.

In the Northern Territory, the Macarthur and Roper fall into the Gulf of Carpentaria; the Victoria and Fitzmaurice into the Araoura Sea, about lat. 15° S.; and the Alligator and Adelaide in Van Diemen's Gulf, in lat. 12° S. Liverpool river is east of Alligator.

Lakes.

The so-called northern lake district is between lat. 28° and 32°. Torrens, Eyre, Gairdner, Hope, and Blanche are the largest. Blanche is 120 miles by 12; Eyre, 150 long; and Gairdner is much longer, and 350 ft. above sea.

The Murray, near its mouth, flows through lake Victoria, 30 miles in length; Albert and the narrow Coorong, 80 long, are connected with the Victoria. There are salt lakes toward Mount Gambier—as Eliza, Hawdon, George, and Bonnay—beside the freshwater crater lakes of Leake, Edward, and Gambier.

*Bays.**Bays.*

The Australian Bight is south-western, and Encounter Bay south-eastern. The Fowler and Streaky Bays are westward. Yorke Peninsula divides the Gulf St. Vin-

cent of Adelaide from the Spencer's Gulf by Port Lincoln. Rapid Bay is in St. Vincent's Gulf.

South-east of Encounter Bay are Lacepede, Guichen, and Rivoli Bays. Port Elliot is west of the mouth of the Murray river; Victor Harbour is 6 miles west of Port Elliot. Port Macdonnel is near Mount Gambier. Backstairs Passage is between Kangaroo Isle and Encounter Bay. Cape Jervis is at the mouth of Gulf St. Vincent. Capes Jaffa and Lannes are south-east.

In the Northern Territory, Adam Bay is at the mouth of the Adelaide River. Van Diemen's Gulf receives the Alligator, and has an outlet by Clarence Straits. The most northern bays are Melville, Arnhem, Mount-morris, Raffles, and Port Essington. Cape Arnhem is N.W. of the Gulf, and Cape Van Diemen is the north-westernmost point. Port Darwin is in lat. 12° S.

Islands.

Islands.

Kangaroo, 100 miles long, is south of Gulf St. Vincent. Nuyt's Archipelago are in the Australian Bight. Flinders and Investigator's Groups are east of Nuyt's, and west of the Boston isles of Port Lincoln. Melville and Bathurst, of Northern Territory, are north of Port Darwin. Groote-Eyland and Wellesley are, however, in the Gulf of Carpentaria.

Divisions.

Divisions.

The old counties are Light, Stanley, Frome, and Burra in the north; Adelaide and Hindmarsh in the middle of the settled parts; and Russell, Grey, and Robe to the south-east. Flinders in Port Lincoln Peninsula. There are 36 counties, and 5 squatting districts, each containing 100 square miles. The 36 counties contain 58,946 square miles.

But the country is better divided into 98 districts, each of which is governed by a Chinaman and an elected Council. These vary in area from 3 or 4 acres up to 230 acres. They are called after rivers, hills, and townships. Tatiara and Mount Gambier are by Victoria.

Towns.

Towns.

The 19 municipalities are Adelaide, Brighton, Clare, Gawler, Glenelg, Goolwa, Kapunda, Kadina, Kensington

SOUTH
AUSTRALIA.

SOUTH
AUSTRALIA.

The capital.

and Norwood, Moonta, Port Adelaide, Strathalbyn, Unley, Alberton, P. Pirie, Osmond, Hindmarsh, Augusta.

Adelaide, the capital, with a population of 35,000, stands on the Torrens River in lat. 35° S.; long. $138\frac{1}{2}^{\circ}$ E. Norwood, Kensington, Unley, Hindmarsh, and Brighton are near it. Port Adelaide is 8 miles from the city.

Towns, &c., north.

The distances of places north of Adelaide are as follows:—Salisbury, 12 miles; Gawler, 26; Barossa, 35; Tanunda, 42; Mount Crawford, 43; Kapunda, 49; Angaston, 51; Port Wakefield, 60; Blyth, 120; Clare, 89; Wallaroo (N.W.), 91; Kadina, 95; Moonta (N.W.), 99; Redruth and Kooringa of Burra-Burra, 100; North-west Bend, 114; Broughton, 150; Ulooloo, 130 (N.E.); James' Town, 140; Port Pirie, 154; Augusta, 240; Saltia, 250; Mount Freeling, 500; Mount Margaret and Peake, 700.

Do. east.

To the east are Hahndorf, 17; Balhannah, 18; Mount Barker, 21; Echunga, 21; Woodside, 22; Gunmeracha, 24; Nairne, 25; Macclesfield, 27; Torrens, 32; Strathalbyn, 35; Wellington, 69; Narracoorte, 220.

Do. south.

To the south are Morphett Vale, 15; Noalunga, 20; Aldinga, 27; Willunga, 30; Yankalilla, 46; Port Elliot, 52; Inman Valley, 60; Goolwa, 60; Encounter Bay Town, 65; Victor Harbour, 65.

Do. south-east.

To the south-east are Kingscote, 120; Kingston, 169; Penola, 254; Border Town, 282; Gambier Town, 287; Allendale, 300; Port Macdonnell, 304; Mount Burr, 329. The population is small in that quarter.

Do. west.

To the west are Moonta, 99; Port Lincoln, 210; Streaky Bay, 406; Fowler Bay, 570; and Venus Bay, 360.

Palmerston, of Port Darwin, lat. 12° S., 1,970 N. of Adelaide. South Port is 25 miles from it. Strangway's Springs, Charlotte Springs, Barrow's Creek, Daly Waters, Yam Creek, are in the overland route.

CLIMATE.**Climate.**

The CLIMATE of South Australia has been put forward, in some cases, as an objection to immigration. The heat and drought are certainly unpleasant to bear; few can realise the exhaustion of long-continued high temperature except by actual endurance.

Heat 65°
average.

The thermometrical heat of the Adelaide Plains in summer has run up to 110° or 115° in the shade. Capt. Sturt, when in the northern desert, observed the glass

at 157° in the sun, and 134° , in the shade. The average heat of summer, however, is 73° , and that of winter 55° , giving a mean of about 65° .

However distressing the temperature in January and February, all recognise with pleasure the delightful climate of an Adelaide winter, with the richest of verdure, and the most genial of airs. For nine months the Colony is as pleasant a residence as can be found on the globe. Even the deficiency of rain adds to the enjoyment of the tourist. In 1862 it was 115° in shade, 165° in sun.

But the heat of Adelaide may be avoided to some extent by a trip to Mount Barker, or other hilly districts, within 25 miles of the city. Eight miles off, even, on Mount Lofty, the thermometer may be seen twenty degrees below that on the plains.

The heat, after all, is a dry one; and, therefore, less injurious to health, and far more easily borne than a moist one. The intense dryness of the air, especially in the hottest months, promotes a healthy circulation, and a relief in perspiration. With the glass at 110° , the wet-bulb thermometer has stood at only 70° . This is different to the climate of some other places, where, with the glass at 90° , the wet bulb may be as high as 80° .

The rain question is an interesting one, as the deposition in South Australia is below that of the other Australian Colonies. The settled parts, being on the eastern side of Gulf St. Vincent, are deprived of the moisture from westerly breezes, by a great extent of dry intervening land. The thirsty north-east wind gives place to the north-west when rain is expected. The heavy falls come from the west, and are usually suspended when the wind shifts to the southward. Rain is not looked for from the north or the east.

According to the meteorologist of the Colony, Sir George S. Kingston, Speaker, the year may be apportioned into three divisions. During the first four months, 4.231 inches of rain may be calculated upon; during the next five, or spring months, 13.576; and for the last three, 4.203. This gives 22 in. a year.

The annual average rain for the seven years from 1839 was 19.303 inches; for the next seven, 25.275; and for the third seven, 21.132. The first period averaged 110 days' rain in the year, though the fall was only on 98 in

SOUTH
AUSTRALIA.

Splendid
winter.

Heat
varies.

Dryness
favourable
to health.

Rain.

Seven
years'
averages.

**SOUTH
AUSTRALIA.**Lowest 13
inches.

1841. From 1864 to 1868, the deposition averaged only 18·116. The average for 39 years was 21·295.

Among the lowest gauges were the following :—1854, 15·346 inches ; 1859, 14·842 ; 1865, 14·713 ; and 1869, the bad corn year, 13·585. The next year, however, gave ten inches more. The highest known rate was in 1875, when there fell 31·455. The Adelaide rain for 1872 was 22½ inches ; for 1876, 14 ; 1878, 21.

Sandy soil.

The general arenaceous soil of the Colony increases the trial of the farmer in so dry a climate. It is said that the fall of as much as a quarter of an inch in one day is scarcely appreciable in the summer, owing to the excessive evaporation. The rains are needed to be heavy in order to be serviceable.

Hail.

Hail storms though few are sometimes violent. In October 1854, great flat pieces of ice fell in a shower.

Barometer
action.

The barometrical action in Adelaide has been thus described by the weather authority, Sir George S. Kingston :—

'As regards the use of the barometer in forming a judgment on the weather to be expected, I have to observe that the barometer invariably begins to fall with a north-east wind, continuing to fall as the wind increases in violence, and draws round by the north, north-west, and westerly, at or about which it reaches its lowest figure. The barometer immediately begins to rise rapidly with the least southing in the wind. I have frequently seen the barometer at its lowest point (as observed by me), 29·3, blowing hard, accompanied by cloudy weather, when no rain has fallen. On the other hand, I have known some of the steadiest and most copious rains to occur with the barometer at 30·2 and the wind light or nearly calm.'

Variety of
climate.

The climatic difference in different parts of South Australia is noticeable, considering the little change of level. Of course, the south-eastern provinces, so exposed to the wet winds, have the large proportion of rain ; especially at Mount Gambier, 900 feet above the sea, and at the southernmost part of the Colony.

Rainfall in
the Colony.

In the wet year of 1861, the following results were obtained :—

1	Port Augusta	7·166	inches in 66 days.
2	Langhorne's Creek	16·275	" 112 "

3	Kooringa	.	17·172	inches in 107 days.
4	Kapunda	.	20·200	" 118 "
5	Strathalbyn	.	22·420	" 128 "
6	Adelaide	.	24·035	" 157 "
7	Bungaree	.	26·702	" 85 "
8	O'Halloran Hill	.	30·160	" 140 "
9	Mount Barker	.	32·001	" 142 "
10	Guichen Bay	.	33·175	" 140 "
11	Penola	.	38·613	" 154 "
12	Mount Lofty	.	45·690	" "
13	Mount Gambier	.	55·686	" 176 "

SOUTH
AUSTRALIA.

Mount Barker, from its elevation, 1,700 feet, might have been expected moister; but its inland position is against its humidity. Kooringa, the Burra Burra, though of considerable height, is 60 miles from the sea. Penola, though lower in latitude, is, also, far inland. Port Augusta has the smallest of all, as the dry Lincoln Peninsula lies to the west of it. Further north, the rainfall is even less, being for some years scarcely perceptible.

It is singular, however, that in the central parts of the Continent, in the line of the telegraph between Adelaide and Port Darwin, water is found in creeks and ponds. The overland explorer, Mr. Stuart, was only two nights without getting surface water. At Palmerston, Northern Territory, 38 inches of rain fell the first 3 months; 10 fell one week. The cool season there is the dry one.

The temperature, as may be supposed, varies with the locality. Thus, in the year taken previously, 1861, the number of days on which the thermometer rose above 90° was as follows:—Adelaide, 45; Strathalbyn, 28; Kapunda and Mount Gambier, 15; Penola, 12; Mount Lofty and Mount Barker, 7; Guichen Bay, 5.

The winds from the north-east, called the hot winds, when raising dust as well as temperature, are troublesome enough. A continuation of them will generally be arrested by a southerly *Burster*. *Black Thursday*, February 6, 1851, was the most fearful day ever experienced over the whole of the south and south-eastern portions of Australia, for bush fires, heat, dust, and darkness.

A waterspout, in 1851, drove out 1,500 miners and their families from their burrowing residences in the sides of the Burra Burra Creek.

The magnetic variation of Adelaide is 7° E.; of Sturt's

Reason for difference.

Water in centre of Australia.

Different temperature.

Hot winds.

Black Thursday.

Water-spout.
Magnetism.

SOUTH
AUSTRALIA.

Desert, 15° E.; and of Port Essington, in the India Sea, $2\frac{1}{2}^{\circ}$ E. The line of *no variation* runs through the Great Australian Bight of South Australia.

GEOLOGY.

Geology.

The *Geology* of the Colony can only be briefly regarded here.

Flat country.

Within lat. 26° S., the greater part of the surface may be called flat and uninteresting. The main ranges of Primary rocks stand out like islands in the tertiary limestone. The Silurian strata are 30,000 feet thick.

Tertiary formation very extensive.

The great tertiary formation extends from east to west, and from north to south, except where interrupted by the ranges of primary rocks. It is carried onward along the southern shores of Australia westward to King George's Sound, and eastward to Cape Howe. It penetrates the continent nearly to the centre, reappearing on the northern coast. The so-called northern lake district, with the country about Sturt's Desert, is a rather depressed basin, compared with the rest of Australia.

Depressed basin.

At the time of this calcareous deposit being formed, Australia was a mere archipelago, like the South Pacific now. Possibly, then, a large continent stood where now the South Sea is situated, and which sank as Australia arose. A deep and tranquil ocean existed where South Australia now appears. Glaciers ran where Adelaide is.

Once an archipelago.
Ocean where the Colony now appears.

Judging by the fossils, many being of a tropical nature, the water was much warmer than any in the same latitude now, and must have had connection with the equatorial sea. The Pecten, Nautilus, Echinus, Spatangus, Terebratula, Coral, and Shark abounded therein.

Warmer then.

As the bottom rose, the islands of granite, sandstone, slate, &c., became lines of mountain in the country of limestone. The elevation is still going on. Rivoli Bay had to be re-surveyed in consequence of the changes during the past seventy years. Reefs 7 miles in length have now an extent of 14 miles. The Bight has risen 12 feet since 1825; and Augusta 7 feet in forty years.

Land still rising.

The formation must have been once very far south of its present sea boundary, and it has suffered much by the inroad of the two great gulfs. Part of the Murray basin would seem to be of an upper Miocene age, and that by

Part Pliocene,
part Miocene.

Mount Gambier of a Pliocene. The crag has much resemblance to that of the English chalk. Fossil wingless birds and monster marsupials are seen therein.

Bands of flint are found in certain localities. Biscuit-like pieces of limestone are gathered in the south-eastern province. The curious lake country, including the Coorong, shows its coralline origin. Lakes Victoria and Albert were once bays. The Murray has cut through cliffs 200 feet in depth to make its course.

The fossiliferous limestone runs imperceptibly into the non-fossiliferous. In the Mount Gambier natural well, 90 feet deep and 100 wide, may be noticed a dozen zones on the side. Among these are bands of flints, of Bryozoa, of Terebratulae, and of bivalves. The water is of singular transparency, and flows in subterranean rivers to the sea. Cliffs of Gambier have the look of coral atolls, says the South Australian Geological authority, the Rev. J. E. Woods, who talks of 1,000 miles of fossils.

Hundreds of miles north of Adelaide is the Torrens basin, now observed to have a number of large salt lakes. The formation is similar to that of the Adelaide limestone plains, with much saline marl and sand. It is a deep trough, 350 feet above the sea level, into which the drainage of Central Australia finds its way. Though but a dry region, stock do well there some years.

The Primary rocks appear through the recent tertiary floor in the long backbone of the Colony, north from Cape Jervis. They run far into the interior of Australia. Other isolated ranges rise through the limestone on Port Lincoln Peninsula. There is no Secondary rock.

Primary sandstone, slate, and limestone, more or less metamorphosed, are seen along these mountains, and are strongly developed in the Grey and Barrier ranges, the Davenport range, the Flinders range, and the Cooper Creek country. The granite, and its compounds, may be noticed intruding through the primary strata, or protruding from the limestone floor. Splendid red varieties are obtained from Kaiserstuhl, Barossa, and Port Lincoln. Hack's Mount Centre is granitic.

In the south of Yorke Peninsula the rock is red, and often combined with much quartz. Splendid felspar crystals are procured from Mount Crawford. Granite crops out to the west of Augusta, and in the neighbour-

SOUTH AUSTRALIA.

Coralline origin.

Mount Gambier flints and wells.

The Torrens Basin tertiary.

Primary rocks.

Granite.

**SOUTH
AUSTRALIA.**

Interior.

Volcanic
rocks.Trap on the
border.

Craters.

Devil's
Punch-
bowl.Mount
Gambier.Crater
lakes.Monster
mammals.Metals and
limestone.Gold
localities.

hood of Coffin Bay, Streaky Bay, and Fowler Bay, as well as in the Nuyt's Archipelago.

In the interior, Mr. Stuart came upon noble granite mountains along with the primary rocks. A portion of the country appeared carboniferous ; and much of it was of basalt, bursting through the tertiary deposits.

The volcanic element is almost confined to the Mount Gambier district. Basalt, however, is present at Mount Bryan, Mount Arden, and even north of Blanchewater. It comes through the limestone on the Gawler river, and crops out at Kapunda. Greenstone dykes are on the side of Mount Remarkable. Rich volcanic soil is north.

But in the lake country of the south-east both basalt and greenstone are more common. Porphyry, however, is the intrusive rock from the Victorian boundary westward to the Murray. A line of trap runs along the south-eastern border of Victoria.

Volcanic cones are common in the south-eastern Gambier country, where four craters may be distinguished. Lake Leake and other inland waters near are but the craters of extinct volcanoes. Mount Schank, or Devil's Punchbowl, is without water, though 200 feet deep.

Mount Gambier, with its ash wall 900 feet high, has a circumference of eight miles, and contains three lakes. The Blue Lake, once called the Devil's Inkstand, is 200 feet from the surface, and is 260 feet deep. The ash has burst through the limestone ; it is 150 feet thick by the lake, 50 feet at a quarter of a mile, and 6 feet at a mile. A wall of cinder supports one of the broken sides of the mountain. The S. coast was suddenly upheaved.

Fossil monster mammals, as the Diprotodon, &c., have been taken from the Pliocene drift. The skull of an enormous wombat was seen at Ulaloo.

The metalliferous wealth of the Colony is owing to the presence of so much crystalline limestone, so usually associated with copper development. The similarity of rocks in the Northern Territory gives promise of deposits of minerals there.

Gold has been traced in various localities, from 100 miles south of Port Darwin to the centre of the continent, though favourable circumstances for the working are hardly to be expected at present. Mines are being developed within thirty miles of Adelaide, but little gold.

Favoured with so much copper, lead, and silver, South Australia must be resigned to purchase coal from New South Wales. Kerosene has been got from a bituminous mineral beside the Coorong, and coal in Kangaroo Island.

The geology is very favourable to agriculture around Adelaide, and for fifty miles eastward and southward, more still to north-west. But in most other places the limestone is too much covered with sand, or a heartless white marl, to give encouragement to the farmer. There are many localities most desirable from the formation, but where the want of rain makes a difficulty.

Government.

South Australia, being the only Australian Colony that never received convicts from England, has had less of British interference or control than the rest.

For some years a private company's settlement, it passed through few changes when becoming a Crown Colony. Though a responsible government did not exist there, nor anywhere else on the continent, till October 1856, the Governors and Council never assumed despotic rights, and the country was conducted liberally and wisely. The Northern territory may desire self-rule.

By the new Constitution, and according to the expressed wishes of the previous Parliament, which was partly nominee and partly elective, two Houses were recognised. The Legislative Council was to consist of eighteen members, who served for 12 years. Those who had the suffrage to vote for them were required to possess a freehold of 50*l.*, or to pay a house-rental of 25*l.*

The Lower House, or House of Assembly, was to have thirty-six members, each nominated for three years. Voters were only required to be of age, and to have resided for six months previously in an electoral district. There are now forty-six members in the Assembly chosen in the twenty-two electoral districts. The voting is by ballot.

The Executive Council consists of the Governor and his ministers. The Legislative Council has twenty-four members.

The Colonial Revenue for the year 1878-9 was 1,592,634*l.*, of which 511,455*l.* came from the customs. The railways brought 274,765*l.*, at a cost of 198,581*l.* The taxes are only 42*s.* per head. The estimated revenue

**SOUTH
AUSTRALIA.**

Coal.

Geology
and agri-
culture.

**GOVERN-
MENT.**
Never a
convict
colony.

Always
well ruled.

Legislative
Council.

House of
Assembly.

Revenue.

SOUTH
AUSTRALIA.

for the year to July 1880, is 1,855,587*l.* The estimated expenditure was 1,854,345*l.*

In 1840 the revenue was 30,199*l.*; in 1850, 238,982*l.*; in 1853, 539,754*l.*; in 1860, 438,827*l.*; in 1865, 1,089,128*l.*; in 1870, 657,576*l.*; in 1877-8, 1,455,105*l.*

Expenditure. The expenditure for 1877-8 was 1,532,019*l.* A large item was 267,796*l.* for interest and redemption of loan. This loan, for public works, is above eight millions.

Civil list cost was 18,900*l.*; police, 63,977*l.*; education, 81,254*l.*; charitable institutions, 70,357*l.*; judicial and legal, 41,679*l.*; postal, 142,182*l.*; military defences, 16,795*l.*; public works, 257,221*l.*; railways, 163,327*l.*

The estimated expenditure for 1878-9 was 1,620,309*l.*

Debt. Though not so well favoured as some of its eastern neighbours, South Australia has had a wise and economical administration. The public loans are not to pay debts, but develop railways and other productive works, as well as to introduce immigrants for labour and profit. Metals, wool and grain have to be brought vast distances to port.

**POPULA-
TION.****Population.**

In 1838 there were 6,000 people; in 1840, 14,630; in 1850, 63,700; in 1860, 126,830; in 1870, 183,797; in 1873, 195,000. In 1862 it was estimated that 38 per cent. of the people were native-born: English, 35; Irish, 10; German, 7; Scotch, 6. The proportion of the native-born and Irish has since much increased.

Sexes. The sexes are more equal now than they were. In 1844, 9,526 were males and 7,840 females; in 1851, 35,302 and 28,398; in 1861, 65,048 and 61,782; in Dec. 1872, 98,481 and 93,742. At the end of 1879 the population was 260,000. There were but 750 in Northern territory.

**Town
population.** Adelaide, at the end of 1878, had 40,000 inhabitants; the Burra, 4,000; Kapunda, 2,500; Port Adelaide, 3,200; Gawler, 2,000; and Glenelg, 2,500.

Births. The *Births*, in 1840, were 360 in a population of 14,630; in 1850, 2,174 of 63,700; in 1860, 5,568 of 124,112; in 1871, 7,082 of 185,626, and 1873, 7,109 of 198,257. In 1878, 9,282 or 38·22 to 1,000.

Marriages. The *Marriages* in these years were as follows:—1840, 186; 1850, 233; 1860, 1,031; 1878, 1,250. These are

respectively as one in 79, in 273, in 120, and in 116. In 1873 there were married under 20 years of age 52 males and 462 females ; in 1877, marriages were 8·67 to 1,000.

The Deaths were, in 1840, 320 ; in 1850, 986 ; in 1860, 2,336 ; and in 1871, 2,378. The several proportions were one in 45, in 68, in 53, and in 78. The deaths for 1873 were 2,631, or but $13\frac{1}{2}$ in 1,000 ; in 1878, 3,749 averaged $15\frac{1}{2}$ to 1,000.

The ages of decease have varied relatively in different years, thus :—

	1862	1864	1877
Under 2 years . . .	1,028	1,214	1,212
" 5 " . . .	172	425	305
" 10 " . . .	74	130	46
" 30 " . . .	211	297	391
" 50 " . . .	185	287	515
Above 50 , , . . .	241	202	629

Different statements as to the causes of disease have been published. Of 2,336 cases in 1860, it was stated that 677 were from zymotic disease, 178 from tubercular, 302 from nervous, 259 from digestive organs, 20 from urinary, 159 from debility, 166 from atrophy, and 97 from constitutional.

The official record for 1878 describes the diseases thus : miasmatic, 780 ; dietic, 62 ; diathetic, 144 ; tubercular, 341 ; nervous, 455 ; parasitic, 25 ; circulatory, 188 ; respiratory, 433 ; digestive, 228 ; urinary, 66 ; developmental, 392 ; nutritive, 365 ; accident, 195 ; murder, 3 ; suicide, 18—of 3,749 cases.

Another analysis gives : zymotic, 874 ; constitutional, 485 ; local, 1,396 ; developmental, 757 ; violence, 220.

The foreign element of population, excepting German, is very small in South Australia. When the Victorian Government exacted 10*l.* upon each Chinaman arriving in port, the cunning Mongolians landed free in South Australia, and walked overland to the diggings in Victoria.

The Aborigines have been better cared for in this Colony than elsewhere, as humane regulations concerning them were adopted from the earliest settlement. Food and clothing were distributed, though little needed. Schools were established for the young that could be got there. Missions have been formed among them, and native settlements for civilisation have been well supported.

SOUTH
AUSTRALIA.

Deaths.

Diseases.

Germans.

Chinese.

Aborigines
kindly
treated.

**SOUTH
AUSTRALIA.**

**Die
childless.**

But, though gentle and good-tempered, the tribes preferred their own customs and liberty. The schools were forsaken, the teaching was disregarded, the civilisation was abandoned. When gathered together, they seem to lose vigour, and die childless. The aboriginal reserves for missions include 500,000 acres in the Northern Territory, the Lake district, &c.

In 1862, there were 2,642 males, 2,404 females; in 1877, 2,203 males, 1,750 females. Of the whole, only 217 worked for the whites.

**EDUCA-
TION.**

**Religious
teaching.**

Teachers.

**Pupils at-
tend well.**

Expense.

RELIGION.

**Early set-
tlers for
freedom of
worship.**

Education and Religion.

The difficulties as to dogmatic religious instruction have been fewer there than elsewhere. There being no denomination specially favoured by the State, the Protestant bodies were agreed upon the simple system of the use of the Bible in the class-room, and the Roman Catholics could use their Donay Bible; but such reading must be before secular school-work. No catechism is allowed in school.

Teachers, to exercise their duties in the Colony, must have a license from Government, certifying as to character and professional efficiency. By recent returns, it is seen that 340 schools have 699 licensed teachers, with 34,491 children on the roll, and 72 per cent. average attendance. The high ratio of attendance marks the anxiety of parents, even in an agricultural country, for the instruction of their families. A Normal School is now established.

The fees amount to three-fourths the sum paid by Government. The education vote for 1878 was 94,819*l.* An excellent upper class school has been established by the Church of England in Adelaide. There is a university.

Many wish to copy Victoria, in making education free, compulsory, and secular. The increased expenditure for a struggling colony is the chief difficulty. At the request of ten parents the Bible may be read aloud by the teacher of a school.

Religion is represented by a number of active religious communities. A very considerable portion of the first settlers were good men, determined that the worship of God should not be neglected in their new home under the gum tree.

They resolved, however, that there should be perfect equality of religious denominations ; and that, to preserve that freedom, the State should make no grants in aid of public worship. At length, however, through the combination of some Episcopalians, Roman Catholics, Presbyterians, and Wesleyans, a trial of State aid was made in 1847. Salaries were given to ministers of any denomination, when the people subscribed an equal sum.

This was pronounced so unsatisfactory by the great majority of colonists, that the law was abrogated in 1851. Since that time, Government assistance has not been solicited ; nor, according to general opinion, has it been much required.

The example set by South Australia has been followed by all the other colonies of Australia and New Zealand.

In no part of the world are the sects so developed as in South Australia. The Methodist family have displayed the most energy. Their sittings for worship are nearly double those of the Church of England, Presbyterian, and Roman Catholics put together. The Independents, first in the field there, have had an influence beyond their numbers. The Presbyterian sections have recently united, though a portion hold aloof, as *free*. The 'Christians' include Disciples, Brethren, &c., who suppose themselves unsectarian. The Lutherans came out as a persecuted body of Pietists from Germany.

The following will give a view of the strength of those various denominations in January 1878 :—

**SOUTH
AUSTRALIA.**

State aid tried.

No state aid since 1851.

The Methodist colony.

Denomination	Places of Worship	Sittings
Wesleyan Methodists	263	36,775
Primitive Methodists	127	15,500
Bible Christian Methodists	118	14,950
New Connexion Methodists	2	530
Church of England	119	24,702
Roman Catholic	53	11,980
Independents	53	9,700
Christians, &c.	29	7,450
Baptists	64	9,150
Lutherans	39	5,724
Presbyterian Church	30	6,890
Free Presbyterians	8	890
Unitarians	2	390
Society of Friends	1	200
Moravians	1	200
Jews	1	200
New Jerusalem Church	1	130

Places of worship.

**SOUTH
AUSTRALIA.****Sunday
schools.****Statistics,
1862.**

There were 530 Sunday schools, with 5,200 teachers and 39,000 scholars, in January 1878.

In the year 1862, the Wesleysans had 20,325 worshippers and 6,628 Sunday scholars; Episcopalians, 11,285 and 3,115; Independents, 9,201 and 2,150; Lutherans, 6,611; Baptists, 3,450 and 795; Free Presbyterians, 2,600 and 800; Church of Scotland, 850; Christian Brethren, 730 and 292; United Presbyterians, 680 and 186; Disciples of Christ, 380 and 179; Unitarians, 270, &c. The Diocesan Synod was formed in 1855. Bishop Short arrived in 1847.

**AGRICUL-
TURE.****The leading
farming
colony.****Town
versus
country.****Farming a
respectable
pursuit.****Not a sugar
colony ex-
cepting in
the North.****Agriculture.**

South Australia, notwithstanding supposed inferiority of climate and soil, has more cultivated land than other Australian settlements. Such is the enterprise of its farmers that, in spite of low yields and low prices, they still struggle onward to the front, and thus illustrate in a remarkable degree those genuine British characteristics of pluck, patience, and plodding perseverance.

When the bad times of 1841 set in, there was a flight from the town to the fields; for the year before there were one-third more in the towns than in the country. Three or four years after, there were twice as many on farms as in city streets, and the acreage under crop was five times that of 1840.

One consequence of this exodus from Adelaide was, that agriculture became associated with respectability in South Australia, to an extent not known in any other colony. The original settlers were, to a larger degree than usual, men of capital and education. When these betook themselves to the plough, though from necessity, the practice of husbandry was deemed more honourable than in colonies where convict labour was employed.

This reputation for high principle, sobriety, education, and sterling virtues, the South Australian farmers strive still to maintain.

Though the climate is so warm, the deficiency of moisture prevents the culture of sugar and many other tropical productions. In that respect Queensland enjoys the advantage. Yet the Northern Territory has both soil and climate admirably fitted for spices and the cane.

Its proximity to dense populations in the Asiatic islands will facilitate the gain of cheap coloured labour, and enable it most successfully to compete with the Mauritius market. Chinese labour is now being introduced.

But South Australia proper is more limited in the extent of vegetable productions.

When the Hobart Town farmers sold, in the Adelaide market, their flour at 100*l.* a ton, and hay and potatoes at equally fabulous rates, they concluded that they should continue to feed the inhabitants—at least so long as any were mad enough to stay in a place where no corn would grow.

But when they heard, in 1844, that those parched Adelaide plains had 18,980 acres in wheat, 4,264 in barley, 1,045 in oats, besides hundreds of acres of self-sown, they knew that the Adelaide market would be closed against them. But no one then calculated upon a time when Adelaide should become the great wheat provider for Sydney, Melbourne, and Brisbane.

Mr. Ridley's reaping machine was of wonderful service to the early growers on these plains. The rapidity of the ripening process caused much corn to be shed on the ground before the sickle could come in. This machine, which runs easily along the even surface, combed out the grain, and thrashed it; while the draught produced did the work of winnowing. With two men and three horses 15 acres are reaped; or 20 acres with two teams a day.

Governor Grey sent a specimen of this machine to Prince Albert in 1845, who warmly congratulated the patriotic and ingenious miller. Of course the straw was left standing; though this, when burnt off, gave the fields of that day about the only manure they could get.

Another circumstance facilitated the advance of wheat-farming. This was the division into 80-acre sections. The area was not too much for a man with small means to compass, and not too small for a good farm. There was very little timber to clear, so that the plough could be sent, if required, from one end to the other without hindrance. Wheat thrives well in dry, open north-west.

Wheat-growing was easily performed, and the product as easily got rid of. It was soon ascertained that, while barley and oats did but poorly in the thirsty land, the

SOUTH
AUSTRALIA.

The wheat.
Importers
became
exporters.

Ridley's
reaping
machine.

80-acre
sections.

Wheat
land.

**SOUTH
AUSTRALIA.**

Small
yield in
dry years.

12 bushels,
1876-7.

Crops'
averages.

Prices.

Rates of
London and
Adelaide.

wheat did better, and was unsurpassed in quality. It has been grown in the dry centre of Australia.

In the statistics of land under cultivation, for the year ending March 31, 1879, we learn that, of the grain crops, there were 1,163,646 acres of wheat in the counties. The wheat crop, 1879, will give 300,000 tons for export.

Owing to the dryness of the climate, the withholding of showers in the spring will cause a great deficiency in the harvest, for an inch of rain throws 22,000 gallons on an acre of ground. Thus, in 1867, the yield averaged the very small amount of 4 bushels 40 lbs. an acre. The average from 1862 to 1872 was only 9½ bushels; though the year 1863 gave 14 bushels, and 1866 14 bushels 20 lbs. It ranged in 1873, a dry year, from 2½ to 17½.

The produce of 1870 was double that of the year preceding, as that of 1872 was double that of the year before. The export of flour in 1873 was 725,450*l.*; and of wheat, 957,877*l.* In 1876-7 the shipped breadstuffs came to 1,988,716*l.* The average for that year was 12 bushels, only 7 next, but nearly 10 last year.

This difference of yield applies to other crops as well, as may be witnessed in the subjoined returns for 1870-1 and 1871-2:—

Wheat	5 bushels	44 lbs. in 1871
"	11 "	30 " " 1870
Barley	9 "	27 " " 1871
"	14 "	37 " " 1870
Oats	10 "	34 " " 1871
"	14 "	11 " " 1870
Hay	20 cwt.	" 1871
"	28 "	" 1870

The prices of wheat have also fluctuated. They have ranged upward from less than 4*s.* a bushel. The average for the crop of 1866-7 was 4*s.* 5*d.*; for 1863-4, 7*s.* 10*d.*; for 1876-7, about 6*s.* The yield of 1858 was at an average of 11 bushels 11 lbs., realising 6*s.* 8*d.*; that of 1862 was nearly equal per acre, but fetched only 4*s.* 8*d.* The average during the last ten years has been 6*s.*

An interesting parallel is presented between the rates of wheat in Adelaide and London:—

Adelaide	London
1865, from 5 <i>s.</i> to 5 <i>s.</i> 9 <i>d.</i>	4 <i>s.</i> 9 <i>d.</i> to 5 <i>s.</i> 11 <i>d.</i>
1868, " 4 <i>s.</i> 3 <i>d.</i> to 9 <i>s.</i>	6 <i>s.</i> 3 <i>d.</i> to 9 <i>s.</i> 3 <i>d.</i>
1869, " 4 <i>s.</i> 1 <i>d.</i> to 6 <i>s.</i> 2 <i>d.</i>	5 <i>s.</i> 7 <i>d.</i> to 6 <i>s.</i> 7 <i>d.</i>
1878, " 5 <i>s.</i> to 5 <i>s.</i> 9 <i>d.</i>	5 <i>s.</i> 6 <i>d.</i> to 6 <i>s.</i>

In 1872, while wheat was 5s. 6d. a bushel, barley was 4s., and oats 3s. 9d.; potatoes were 5l. a ton, and hay was 2l. 17s. 9d. Meanwhile fresh butter sold at 9d. a pound, and cheese 6d. Prices have been higher since.

SOUTH
AUSTRALIA.

Green forage depends upon a dripping season. While, in 1878, 7,433 acres were devoted to lucerne, 1,529 were of wheat and other grain, cut down for green feed. Of 21,078 acres in artificial grasses, much were in the county of Grey—so much more favoured with rain than the north and west. At Gambier 12,598 were sown.

Other
prices.
Green food.

Hay, which is principally made of weedy wheat, is a pretty safe crop. In 1878 it was grown on 218,359 acres; though, in 1862, on 78,747 acres, the yield varies from 20 to 30 cwt. an acre. Potatoes occupied 5,398 acres, producing 14,378 tons. These grow best at Mt. Barker and Mt. Gambier; the latter had 2,556 acres.

The acres in crops for the year ending March 1879 amounted to 2,011,319. In 1864 before there were 320,160, 65 per cent. of which were in wheat. In 1856 the acreage in crop was 203,423; in 1850, 64,728; in 1843, 28,690; in 1840, only 2,503.

Increase of
acreage.

The orchards have always been of importance in the Colony. In the season, fruit is of such abundance as to be almost unsaleable. Peaches, nectarines, figs, and plums are in profusion. Apples are not to be surpassed in quality of flavour, though the keeping varieties flourish better in Tasmania. In the hilly districts raspberries, strawberries, currants, and gooseberries are raised. In 1878-9 the orchards comprehended 3,574 acres; vineyards, 4,297; gardens, 4,677.

Orchards.

But the grape is pre-eminently the fruit of South Australia, whose dry climate resembles the best parts of the Rhine and Rhone. The 4,452 acres of vines in 1871-2 produced 852,205 gallons of wine, besides 33,826 cwt. of grapes sold for the table. Ten years before, the acreage of vineyards was 3,918, and the wine produce was 472,797 gallons. A million gallons were made in 1872. The oidium plague is not unknown there.

Grapes.

The German immigrants have the merit of introducing the successful culture of the grape. The wine has the best of reputation among the Australian manufacture, though hitherto protective duties have hindered its sale in the more populated colonies. The exportation, there-

Wine.

SOUTH
AUSTRALIA.

fore, has not been considerable, as the under-mentioned table shows :—

			Yield			Exported
1866	.	.	839,979	.	.	12,984
1868	.	.	863,584	.	.	24,316
1870	.	.	895,795	.	.	50,085
1877	.	.	458,303	.	.	48,691

Olive.

Want of labour.

Flax and silk.

Farming localities.

The olive, which succeeds so admirably in that climate, is not a commercial success. The fruit falls under foot, because it will not pay to gather it. Growers have offered it for nothing, in the hope of inducing capitalists to establish oil manufactures. This is not the only instance of the want of labour delaying the productive industry of the Colony. Attempts long failed, for the like reasons, to convert the grape into dried fruit.

Flax is found to succeed in the Adelaide district; 100 tons were produced last year at Willunga. The mulberry, though doing fairly, may need more water than the climate can afford. The Lombardy practice of irrigation cannot easily be applied to the foliage for the silkworms, on the plains of South Australia. Hops succeed favourably at Mount Gambier and Mount Barker.

Kangaroo Island, the first settled part of the Colony, and once believed the Paradise of the South, had, in 1878, only 261 acres in wheat. Victoria County had the largest crop—191,110 acres; Stanley had 160,259; Gawler, 146,942; Light, 138,429; Dalhousie, 133,762.

The country around Willunga, Strathalbyn, and other places on the west side of St. Vincent's Gulf, is highly productive. The hilly district, running northward from Adelaide, including Mount Barker, Barossa, Tanunda, &c., is beautiful and fertile. The country round Port Pirie is much favoured by farmers.

The two great peninsulas, Port Lincoln and Yorke, are less heeded for cultivation. Beside the narrow belt of land on the east side of St. Vincent's Gulf, the other farming region is the lovely and romantic country of Mount Gambier, a few miles from the Victorian boundary.

Never, perhaps, was there beheld such an oasis of beauty and fertility, as exists for a few square miles around the old crater of Gambier.

Mount Gambier oasis.

Pastoral.

SOUTH
AUSTRALIA.

If the climate be regarded as an obstacle in the path of the farmer, it is equally so to the squatter, though both manage to make a good living in the country. But recent discoveries prove that farther north, once thought a desert, rich black soil gives splendid grasses in the driest seasons ; a little rain suffices for the pasture.

Within the settled district much purchased land is devoted to grazing. In 1878 there were 100,000,000 unoccupied and unleased acres out of 243,000,000.

The four so-called pastoral districts are, the Northern, Pastoral
districts. Western, North-eastern and Eastern. Other parts are divided into farming counties. The area is enormous ; but while some part of the country is of bare hills, scrubs, salt lakes, poor marly plains, and sandy wastes, in the other localities cattle are raised in great quantities, and sheep fatten with much facility.

But stations have had to be abandoned for a season or two together in consequence of drought. Country full of grass one year may be next year a true desert. Water-holes failing, nothing but retreat is left to the squatter. Effect of
drought.

Of course, footrot and lung-disease are very far less troublesome there than in other colonies ; and the wool suffers somewhat in quantity by the extra heat. Horses and cattle do very well if water be at hand. Locusts were a plague to the pastures in 1879.

Wild dogs are not so great an evil as in Victoria ; Bush life. though the lambing season is not usually so good. Shepherds have their difficulties in times of severe drought, and men have sometimes died from thirst in journeying from one station to another. For all that, the life in the bush there is eagerly sought after by new comers, and generally well appreciated for its healthiness.

The original stock came from the Cape of Good Hope and Van Diemen's Land. Great judgment and enterprise have been shown in the improvement of breeds. Stock
origin.

The Overlanders, who brought sheep, cattle, and horses across from New South Wales in the early times, were highly esteemed in Adelaide for their courage. Port Phillip was established simultaneously with South Australia, and was its rival buyer for stock. Over-
landers.

The dangers of overlanding were want of supplies,

**SOUTH
AUSTRALIA.**Trials of
stockmen.

want of water, exposure to weather, and attack from natives. The primitive stock drivers were men of tremendous energy, and great powers of endurance. Messrs. Bonney and Hawdon brought animals from the Murrumbidgee in April 1838, and Capt. Sturt drove over 400 head of cattle that year, suffering fearfully from thirst on the route. One of the most dashing overlanders, in 1838, was Mr. Eyre, afterwards Lieutenant-Governor of New Zealand, and then Governor of Jamaica.

Bad times.

The prices of sheep and cattle helped to impoverish the new settlers. Sheep bought for 5*l.* a head were ultimately sold for a shilling or two. But in spite of all disadvantages of climate, country, and cost, the flocks and herds increased, and squatters shared in the rising prosperity. In 1878, 104,000,000 acres were leased.

Squatters.

In 1878, 1,328 Crown lessees held 174,180 square miles; while 144, having annual licenses, occupied 5,470. The rents of the first came to 40,566*l.* a year, and of the last, to 8,377*l.* In 1862 the stockholders were 392, employing 3,099 hands. The drought of 1877 tried the stock.

Increase
of stock.

The increase of the stock is thus told :—

	Horses	Cattle	Sheep
1840	959	16,052	166,770
1846	2,000	60,000	700,000
1850	6,488	100,000	1,000,000
1856	22,260	272,746	1,962,460
1860	49,399	278,265	2,824,811
1862	56,251	258,342	3,431,000
1864	62,899	204,892	4,106,230
1868	75,409	123,213	4,987,024
1871	78,125	143,463	4,412,055
1872	82,215	151,662	4,900,687
1878-9	121,553	251,802	6,377,812

As will be apparent from the above, sheep-farming is thought more profitable than cattle-raising. Most stock is raised in agricultural areas on purchased land. In pastoral districts proper, in 1878, were only 5,700 horses, 56,411 cattle, and 1,106,437 sheep.

Increase
of exports.

While 4,885 cwt. of preserved meats were exported in 1870, 2,470 went off in the year 1878. The tallow export, which was 24,711 cwt. in 1868, rose to 32,420 in 1878. Hides yielded 13,472*l.* in 1872, and but 753 in 1862. Tallow and hides are now used up there.

Wool.

Wool is now the staple export of the Colony. The contrast is very remarkable between 770*l.*, the value in

1838, and 1,305,280 ℓ . in 1868, about seventeen hundred times the export in thirty years. Some notion of this progress, and the variations of prices, may be gained from what follows:—

	Quantity lbs.	Value £	Wool export.
1842	528,032	22,036	
1845	1,331,888	72,235	
1850	3,266,017	131,731	
1853	4,607,281	236,020	
1854	3,463,760	182,419	
1855	5,590,171	283,479	
1860	11,731,371	573,368	
1866	19,739,523	990,173	
1868	28,899,190	1,305,280	
1870	25,908,728	902,753	
1871	28,539,567	1,170,885	
1872	33,709,717	1,647,387	
1878	67,982,463	2,417,397	

Mining.**MINING.**

One of the earliest colonists, Mr. Mengè, an eccentric man of science, with strong though peculiar religious views, made the first geological exploration of the hills north and south of Adelaide. He discovered valuable minerals, and predicted that the Colony would have great wealth in copper, silver, gold, and precious stones.

Mengè the geologist.

But the first working mine was that of Wheal Gawler, in 1841. Glen Osmond, also a lead mine, soon followed. Kapunda Copper Works were then opened by Messrs. Dutton & Bagot. The Burra Burra followed in 1845, and gave the impetus of discovery to many mines.

First mine,
1841.

In 1851 mining was very prosperous, there being then 33 copper companies, 3 silver, 3 lead, with 3 smelting works. The gold fever attracted miners to the Victoria fields, and left the copper walls silent. Again the solid pursuit of copper-mining was resumed in the Colony, to be stimulated by the great discovery of the Moonta lodes, in 1861.

Burra
Burra,
1845,

Moonta,
1861.

The Burra Burra Company for some time received dividends at the rate of 800 per cent. per annum. The area of 10,000 acres was purchased for 10,000 ℓ . The ore raised in 1851 was valued at 350,000 ℓ . The deep workings hardly pay at the present time. The Moonta, on the barren Yorke Peninsula, has been a great success ; during the last six months of 1872 above 12,000 tons of

Copper
yields.

**SOUTH
AUSTRALIA.**

Copper
mines.

Bismuth
and silver
mines.

Gold.

Metal
region.
Mineral
export.

Mineral
leases.

Gold
regulations.

Coal leases.

valuable ore were raised, affording 136,000*l.* in dividends. All copper export, 1872, was 806,364*l.*; 1878, 291,929*l.*

The principal copper mines at the present time are, Bremer, 25 miles from Adelaide; Kanmantoo, 25; Reedy Creek, 32; Kapunda, 50; Moonta, Yelta, Poona, Doora, Wallaroo, 85; Burra Burra or Kooringa, 100; Burrawing, 150; Prince Alfred, 160; Blinman, 262; Burr, 300; and Yudanamutana, 325; Sliding Rock, 365.

Those at work for bismuth are Daly and Stanley, 328 miles. Cobalt is found at Catarpe, 100. The silver working mines are Glen Osmond, 4 miles; Ben Lomond, 10; Almada, 12; Wheal Coglin, 48; and Talisker, by Cape Jervis, 54 miles from Adelaide. Hamlin has copper.

Not content with this monopoly of copper, the South Australians have earnestly sought after gold. Mengè, the German, told them nearly thirty years ago that by sinking through iron they would come upon the precious metal. The gold mine of Victoria, near Adelaide, was worked for some years before Ballarat was known, but the vein did not pay, or the miners knew not how to work it.

After the gold discovery, much money was spent to find a field in South Australia. There are rich quartz reefs in the Northern Territory at Palmerston, Howley Creek, Yam Creek, Pine Creek, &c. Gold workings also exist southward at the Barossa, Mount Pleasant, Gummeracha, Ulooloo, Echunga, Onkaparinga, &c.

The metalliferous region extends all along the main range northward from Cape Jervis to Blanchewater, 500 miles. The mineral export for 1877 was but 635,643*l.*

Mineral Leases, by the Act of 1862, are confined to 320 acres, and for a period of fourteen years, with right of renewal. The rent was to be 10*s.* an acre. By the Regulations of 1871, miners and others engaged in mining pursuits could obtain half an acre of land at a rental of 10*s.* a year, for the term of seven years.

Gold-mining regulations, founded upon those adopted by Victoria, afford great advantages to the speculative hunter for the precious metal. In the Murray Flats a lease for 10,000 acres may be had at a peppercorn rent, on condition that 2,000*l.* a year be spent in actual mining for gold. For smaller claims the rental is 2*s.* 6*d.* an acre.

Leases for 10,000 acres may be obtained by those

seeking for coal or petroleum. The prospect is not promising, as the carboniferous system is very feebly represented. The mineral has been found on Kangaroo Island. A bonus of 10,000*l.* is offered for the finding of a coal field. By Act 1878, 80 acres of mineral land may be licensed for search at 1*l.* for a year, and 640 on lease at 1*s.* an acre and 1*l.* fee. Licenses may be renewed. Gold is not included.

SOUTH
AUSTRALIA.

Trade and Manufactures.

TRADE.

South Australia has neither the trade of New South Wales, nor the manufactures of Victoria. Its enormous yield of bread-stuffs, and its valuable production of copper have, however, employed a large shipping interest.

In 1843 the tonnage entering the port was 7,532; in 1849, 80,623; 1853, 131,994; 1859, 111,436; 1863, 127,667; 1869, 169,991; 1872, 175,867; 1878, 452,738.

The port of Augusta, at the head of Spencer's Gulf, receives the metal of the northern mines, as that of Wallaroo does the copper of the Yorke Peninsula claims. The ports at the mouth of the Murray, as well as near Mount Gambier, have greatly advanced the shipping trade.

The enterprise of Adelaide merchants first utilised the adventurous cruise of Captain Cadell down the Murray, in 1853. Though, unfortunately, a bar prevents steamers passing the mouth of that river, an inner port of the Goolwa passage was brought into communication with the open sea at Port Elliot and Victor Harbour.

This gave South Australia the hope of commanding the trade of the Murray. Steamers brought down the produce from both banks along 2,000 miles, and even down the Darling many hundreds of miles. The produce was then brought onward by coasters to Adelaide. Though Victoria, by the railway to Echuca on the Murray, arrests much of this traffic, a large amount of carrying trade is still conducted by the Adelaide merchants. The exports *via* Murray in 1877 were 204,996*l.*

In order to get a day or two in advance of Melbourne with the monthly mail, as well as to avoid the loss of seven days, this poor but energetic government was induced to expend 15,000*l.* a year in sending a

Tonnage.

Ports.

Murray
trade.

Mail
enterprise.

⁷ **SOUTH
AUSTRALIA.**

Telegraph
to Port
Darwin.

Northern
Territory
trade.

Few re-
exports.

Imports
fluctuate
according
to times.

steamer specially to King George's Sound for the letters to Adelaide. The Mail ship now calls at Adelaide.

The establishment of the telegraph line across the continent to Port Darwin, is another evidence that this Colony, though inferior in resources to others, is determined to make the most of those it possesses, and develop internal trade. The cost was 446,000*l.*

Already the Northern Territory is giving an extension of colonial traffic. If ever a railway be made across the continent from Adelaide to Port Darwin, commerce will be greatly advanced, rich mineral country and good pasturage being known in the interior. The growth of tropical products is proceeding satisfactorily though slowly in North Australia.

The imports and exports are the exponents of trade. Not being near a State needing supplies, the re-export trade is an inferior one, and so differing from that of Sydney or Melbourne. This reduces the item of imports. The exports, however, are somewhat swelled by the Murray traffic bringing down the produce of New South Wales and Victoria.

In a period of exultation, from real or fancied prosperity, the imports are larger than usual, and bear an excess of proportion to the exports. In seasons of depression there is less desire for luxuries, and a sterner resolution to limit purchases of all kinds.

In the fictitious period of wealth, 1839 and 1840, the imports were respectively 346,649*l.* and 303,357*l.*, while the exports were but 16,039*l.* and 32,079*l.* The year 1853, after the gold discovery, imported 2,836,290*l.*, while the year before received but 798,811*l.* The imports then exceeded those of 1871 afterwards.

On the contrary, in the bad year of 1848, the imports fell to 109,137*l.*, and the year after to 118,915*l.* Yet the exports rose in the first year to 66,160*l.*, and afterwards to 80,858*l.* Upon awakening from the gold dream, in 1855, the imports were only 1,370,938*l.*, or one million pounds less than two years before.

The fluctuations in exports and imports mark the vicissitudes of colonial trade. The year of insolvencies followed the year of speculation and undue prosperity.

Other extracts from official statistics will indicate the march of trade :—

Year	Imports	Exports	S. A. Produce	SOUTH AUSTRALIA.
1838	158,682	6,442	5,040	
1840	303,357	32,079	15,650	Imports and exports statistics.
1845	184,819	148,459	131,800	
1848	384,326	504,068	465,878	
1850	845,572	570,817	545,040	
1852	798,811	1,787,741	736,899	
1856	1,366,529	1,665,740	1,398,867	
1860	1,639,591	1,783,716	1,576,326	
1865	2,927,596	3,129,846	2,754,657	
1870	2,029,793	2,419,488	2,123,297	
1871	2,158,022	3,582,397	3,289,861	
1872	2,801,571	3,738,623	3,524,395	
1878	5,719,611	5,355,020	4,198,034	

The imports were chiefly, as in other colonies, manufactured articles, directly or indirectly, from Great Britain. Those for 1877 amounted to 4,625,511*l.*, paying 478,485*l.* duty. From Britain the value was 2,828,834*l.*; from New South Wales, 317,345*l.*; Victoria, 807,863*l.*; Mauritius, 137,644*l.*; Foreign States, 268,396*l.* Of the imports for 1877, more than seven-eighths were for home consumption.

The chief exports of 1878 were the following :—Wool, 2,416,397*l.*; wheat, 856,125*l.*; flour, 802,216*l.*; copper, 291,929*l.*; tallow, 48,146*l.*; preserved meats, 6,581*l.*; wines, 35,204*l.*; preserves, 12,912*l.*; butter, 8,929*l.*; fruit, 4,587*l.*

Of 62,281 tons of flour, 17,213 went to New South Wales; 16,649 to Queensland; 8,008 to the Cape; 6,494 to Natal. Of wheat, 2,044,491 bushels went to England, and 523,314 to New South Wales.

The imports for the year ending Dec. 31, 1877, were 4,625,511*l.*, and the exports, 4,626,531*l.* The exports for 1878 were but 4,095,595*l.* colonial produce.

The coasting and Murray river trade employs a number of steamers. The railways are progressing northward, and paying their way satisfactorily. The railway from the capital to Port Adelaide is $7\frac{1}{2}$ miles long; to the Burra Burra, 100; to Kapunda, 50. A tramway goes from Goolwa to Victor Harbour, and from Victor Harbour to Strathalbyn. Over 450 miles of rail were opened at the end of 1878, and 500 were in progress. A railway will be constructed across the Continent to Port Darwin. It is proposed to give a company alternate sections along the line, and to require the completion

Imports—
where from.

Exports
for 1878.

Flour
export.

1878
returns.

Railways.

**SOUTH
AUSTRALIA.**

**Telegraph
charges.**

Banks.

**MANUFAC-
TURES.**

**Bonus
system.**

The Tariff.

Duties.

of the work in fourteen years. Largs Bay is to be an outer harbour for sea-going steamers.

The telegraphic stations within the old part of the colony were 135 at the beginning of last year, with 4,217 miles length of lines. The great line across the continent to Port Darwin was opened to Adelaide, Oct. 22, 1872. The charge for ten words from Adelaide to Port Darwin is 14s. There were 429 Post Offices in 1879.

The *Banks* do a good business. The liabilities of eight Adelaide banks in 1879 were 3,984,595l. The assets of the banks were then 7,058,737l. The savings bank had a balance of 993,720l. to 29,088 depositors.

Manufactures have advanced much during the last few years. In January 1878, there were 113 steam flour mills, 43 agricultural, 9 engine, 2 gas, and 2 dye works; 20 coach and 24 boot factories; 22 tanneries, 21 saw-mills, 8 foundries, 3 patent slips, 25 breweries, 9 fruit driers, 33 distilleries.

The Government, to encourage local manufactures, has offered a bonus of 1,000l. for the dressing of flax, 2,000l. native fibre, 2,000l. paper works, 2,000l. iron works, 2,000l. a woollen mill, 1,000l. sugar works, 1,000l. kesosene works, 500l. sericulture, 250l. glassbottle making, 100l. olive oil factory, 4,000l. best reaping machine.

The *Tariff* of South Australia is not protective, like that of Victoria, depending yet on raw produce.

Ale and beer are charged 9d. per gallon, or for 12 pint bottles; spirits, 10s.; methylated spirits, 3d.; limejuice, 9d.; vinegar, 9d.; wines not above 35 per cent. proof, 4s. to 6s. per gallon, and 12 pints; oils, not medicinal or perfumed, 3d. and 6d.

Bacon, cheese, maccaroni, dried fruits, mustard, hams, spices, pepper, confectionery, jams and syrups, pay a duty of 2d. per lb.; tea, 3d.; unmanufactured tobacco, 9d.; manufactured tobacco, 2s.; sheepwash tobacco, 3d.; cigars and snuff, 5s.; chicory and coffee, 4d.; arrowroot, candles, pearl-barley, preserved meats, and sago, 1d.

Rice is rated at 3s. per cwt.; rope, 3s.; loaf sugar and molasses, 3s.; paper bags, 3s. 4d.; nails and paints, 2s.; and potatoes, 6d. Soap, salt and soda are 20s. per ton; opium, 10s. per lb.; hops, cocoa, and raw coffee, 3d. per lb.; malt, 6d. per bushel; pickles and bottled fruits, 1s. per doz. pints; oils, not whale, 3d. to 6d. per gallon;

palings, 6d. per 100; boards, 1s. 6d. per 100 sup. feet; deals, 2s. 6d. per 40 cub. feet. Doors are 2s. 6d. each.

An *ad valorem* duty of 10 per cent. is laid upon drapery, furniture, fire-irons, grates, arms, turnery, carriages, hosiery, furs, slops, millinery, rugs, hats, boots, blankets, cutlery, carpets, woodware, brushware, earthenware, glassware, tinware, drugs, perfumery, fancy goods, jewellery, musical instruments, plate, saddlery, bricks, slates, leather, stationery, raw sugar, &c. An *ad valorem* of 5 per cent. includes implements, and all cloths and tweeds in the piece.

The free list includes blasting powder, books, bottles, flour, manures, iron bar, printing paper, plants and trees, ores, passengers' baggage, wool, &c.

SOUTH
AUSTRALIA.
Ad valorem
duties.

Free list.

The Northern Territory.

THE
NORTHERN
TERRI-
TORY.

Since the Northern Territory, extending to within a dozen degrees of the equator, has become a portion of South Australia, the unsuitableness of the name of the colony has become the more apparent.

This was added to the colony in 1863, being north of lat. 26°, from 129° to 138° E. long.

Added,
1863.

The revelation of that *further land* through the enterprise of Adelaide colonists, sustaining the intrepid efforts of Mr. Stuart to cross the continent, deserved that recognition from the Crown. To which Colony could it be better attached than the one that had opened it up, and to which it was connected on its southern border? Queensland and Western Australia had already vast areas. The area is 523,620 square miles.

Right of
Adelaide
to it.

The crew of Hans Carstens, a servant of the Dutch East India Company, named the great northern promontory, after their ship, *Arnhem Land*, in 1623. The explorer himself was killed by the wild men of New Guinea before the expedition reached Australia. Report was brought back to the company that the new country was barren and useless.

Part dis-
covered
1623.

Tasman, the discoverer of Van Diemen's Land, sailed along those shores in 1644. The gulf was named after Carpenter, the Governor-General of the Dutch East India Company, in 1628. Captain King, however, deserves honour for his careful survey of the north coast, from 1818 to 1823. He gave names to the rivers Alligator

Tasman,
1644.
Carpenter,
1628.
King and
Stokes.

**SOUTH
AUSTRALIA.**

and Liverpool, to Port Essington, Bowen Straits, Cape Melville, &c. The 'Beagle' expedition, under Captain Wickham and Captain Stokes, greatly extended our knowledge of that part of Australia. They discovered the Victoria, Adelaide, and Albert rivers, though the sailors were pronounced less effective in bush travelling than in boat exploration.

**Leichhardt,
1845.**

To Dr. Ludwig Leichhardt, the distinguished discoverer of the interior of Queensland, is the merit due of making known the Northern Territory from an inland point of view.

After traversing Eastern Australia for two thousand miles, he entered this new province toward the close of 1845. With no supplies left but those furnished by his gun, this judicious observer, and truly courageous man, overcame all difficulties in his march from Moreton Bay, and found a resting-place at the military post of Port Essington.

Mr. J. McDoual Stuart continued the work. His first and second attempts to cross the continent for Adelaide, in its broadest part, were defeated. In the meanwhile Burke and Wills, by a forced march from Melbourne, gained for Victoria the barren victory of first crossing Australia. The third trial in 1862 took Mr. Stuart successfully to Port Darwin, 450 miles from Timor.

**Burke and
Wills
crossed
first ;
Stuart
after.**

A brief description of the country and its resources will not be out of place; as, from the manner in which the enterprise has been since carried on by South Australia, a successful development of the territory is to be calculated upon. The average rainfall is 63 in.

**Tropical
produce.**

Tropical in its character, the climate is not very different from that of Northern Queensland. A great deal of the land is good, cattle thrive well upon the pastures, pearl and bêche-de-mer fisheries can be established, while mines of gold and other metals are being opened up. Contiguity to Java and other Indian islands will promote the success of the settlement.

**Sugar
lands.**

Conscious that the rich flats near the sea will one day have plantations of rice, sugar, cotton, &c., while horses, cattle, and sheep can be raised on the pastures for the Indian market, the Government of South Australia has made use of a wise and liberal policy to attract emigrants, and secure a permanent establishment.

Attempts had previously been made to settle the north-

ern coast. The British Ministry, hearing that the French were fitting out a colonising expedition for North Australia, sent off Sir Gordon Bremer, in 1824, to form the settlement of Dundas, on Melville Island. Subsequently, this officer took possession of the whole northern coast westward from Cape Yorke.

Captain Stirling next tried a location on the east side of Raffles Bay, Coburg Peninsula. But his Wellington settlement was sorely plagued by the Blacks and the mosquitoes. The officer removed his party to Leeuwin, in 1829, and Western Australia arose as a new colony.

As distressing cases of shipwrecks in the Indian seas had occurred, with accounts of Malay piracy, a military post was established at Victoria, on Port Essington. Four years after Leichhardt had been so hospitably received there, the station was abandoned.

The Adelaide Government determined to have a people's settlement at Palmerston of Port Darwin, lat. $12\frac{1}{2}^{\circ}$ S., long. 131° E. The Land Act for the Northern Territory, recently passed, is the best evidence of their intentions.

The land is to be divided by the Resident into counties and hundreds. It is open to selection, upon credit, at 7s. 6d. an acre, upon deposit of sixpence an acre, though cash is demanded for areas exceeding 1,280 acres. Special surveys of 10,000 acres each may be purchased. Township lots are sold by auction; twenty per cent. cash, and balance within the month. Ten years' leases of agricultural land may be had at sixpence per acre rental.

Selections of not less than 320 acres, nor more than 1,280, for the special growth of sugar, cotton, tea, rice, or tobacco, are to be had upon conditions. After paying sixpence an acre rent for five several years, a free grant is given if the land be enclosed, and one half under cultivation. There is no want of water.

Pastoral Leases are for twenty-five years. They may include from 25 to 400 square miles, though subject to resumption of land at six months' notice, if required for public purposes. The stocking must be at the rate of three great cattle, or ten sheep, per square mile. The rental is sixpence each square mile, 640 acres, for the first seven years, and ten shillings a year for the rest of the term. The run can be resumed at six months' notice.

SOUTH
AUSTRALIA.

Old settle-
ments
abandoned

Port
Essington
settled.

Land Act
for North-
ern Terri-
tory.

Credit at
7s. 6d. an
acre.

Farms
rented 6d.
an acre.

Sugar or
cotton land
2s. 6d. an
acre free-
hold.

Pastoral
leases at 6d.
a square
mile.

**SOUTH
AUSTRALIA.**

**Other
leases.**

Annual pastoral licenses are, also, to be obtained. Unauthorised use of land subjects the individual to penalties from 5*l.* to 50*l.* for the offence. All unbranded wild cattle, above a year old, are held to be the property of the Crown, and may be taken and sold.

Further facilities for settlement are afforded. Leases are granted for wharf accommodation, gas factories, etc., on a term of twenty-one years, at the rate of not less than a pound an acre a year. If the lease be revoked by the Resident Commissioner, compensation will be awarded for improvements.

**Copper
leases.**

For copper or other mining than gold leases for fourteen years can be had, though in blocks of not more than 640 acres. The rent is to be estimated at from 2*s.* 6*d.* to 10*s.* 6*d.* an acre. Should the lease be renewed, a fee of 100*l.* an acre will be demanded. Annual licenses are granted for the search after minerals, with a prior right of lease. Occupation licenses for miners, working an area of half an acre, may be extended over seven years at a rental of not above 10*s.*

**Gold
mining.**

Gold mining is likely to be an important industry in the Northern Territory, especially as excellent quartz reefs have been opened up about 100 miles south of Palmerston. By 1879 about 70,000 oz. were taken. Tin and copper workings are commencing. Undue mining speculation has retarded the Northern progress.

Persons unlawfully mining are subject to a penalty of a pound a day for so infringing the law, while the neglect of getting a business license on a gold-field involves five pounds a day penalty.

**Gold
licenses.**

The warden may give licenses to search for the fee of 5*s.* A prospecting quartz claim is limited to 200 yards in length by 250 in breadth; while an ordinary claim is 100 by 250. A prospecting alluvial claim is 100 yards by 50; and the working claim 30 yards by 30, if less than half a mile, and not less than 100 yards from a paying claim.

**Extent of
claims.**

Alluvial and river claims are 100 yards to a stream, and 30 on each side. If not the bed of river, and not exceeding 40 feet deep, 100 yards by 100 are allowed. Ordinary alluvial claims, not more than 40 feet, may be 160 feet by 75 feet; but, if over 40 feet depth, and two employed in a claim, the extent is 250 feet by 250.

A cement claim is 15 yards by 10 only. A puddling claim, employing four men in old ground, may be 50 yards by 40. The area for a crushing machine cannot exceed four acres.

Companies receive land according to their capital. Those with 250*l.* and 100*l.* paid up, claim 50 yards by 50; with 500*l.* and 250*l.* paid up, 75 by 75; but with 1,000*l.* capital, half paid up, an area of 100 yards by 100 is permitted. All this is in addition to the usual allowance for each miner at work. Many Chinese go North.

SOUTH
AUSTRALIA.

Area ac-
cording to
capital
invested.

Land Laws and Immigration.

LAND
LAWS.

The land laws of South Australia have compensated for the want of resources so abundant in neighbouring colonies. Owing to facilities for settlement upon the land, many emigrants flocked to Adelaide, when better farming localities were locked against them on the Melbourne and Sydney side.

Good local
laws at
first.

Notwithstanding the general inferiority of soil, and the severe trials of a dry climate, South Australia has had the distinction, which it still enjoys, of being, relatively, the most agricultural of the Australian Colonies. For a number of years, when the neighbouring settlement of Port Phillip, or Victoria, was virtually closed against the farming immigrants, by the impediments in the way of obtaining a farm from Government, the Adelaide authorities threw open the country in 80-acre sections at one pound an acre.

80-acre lots.

Capitalists, in many cases, purchased such sections to sell again to intending settlers upon a system of long credit, thus benefiting both parties. In other instances, the rent was made in produce, either fixed in quantity, or in ratio of yield for the season.

The Land Sales began in 1836, when 60,915 acres were disposed of, though in London before the emigrants sailed. In 1839, 170,841 acres were alienated; and so large a sale stimulated that mad speculation in land, which brought the Colony to the verge of ruin. In 1841 only 7,651 acres were purchased; and, in the bad year of 1843, only 1,887. By 1879, 8,888,082 were sold.

Land sales.

Better times brought more buyers. In 1845, 49,658 acres were sold; in 1850, 64,940; in 1853, 213,321; in

SOUTH
AUSTRALIA.

1860; 129,262; in 1865, 316,477; and in 1872, 114,788. In the latter year 299,957 acres were disposed of on credit. In 1878, 153,102 acres fetched 253,678l.

At the beginning of 1874 the total acreage sold by the Crown was 4,626,444, in addition to half a million acres selected under the new regulations. In 1879 there were 1,750,000 acres open to selectors.

Land
leases.

By the Land Act of 1867, if lands submitted to auction are not disposed of during the month, they could be leased for twenty-one years, with a right of purchase during that term at one pound an acre. The rental was submitted to auction.

Credit
system.

By the Act of 1869, the credit system was introduced. A block, if not more than 640 acres (eight sections) could be had by paying down 20 per cent. of the purchase-money, as four years' interest in advance, with time allowed for the balance. This arrangement was modified the year after, when two instalments of 10 per cent. were substituted for the cash payment, one instalment being at the end of three years.

Agricul-
tural areas.

Six Agricultural Areas are specified, in which land is to be obtained on the credit system only, at a price to be fixed by the Government, according to quality, &c. If not taken up within a certain period, the rate of purchase is lowered. Not above 640 acres in one block can be so obtained. By 1879, 2,931,430 acres were selected.

Conditions
of purchase
by credit.

Buyers on the credit plan signed an agreement with Government, though this was not transferable, except on permission from the Land Office. The balance of purchase in the one case, or the whole in the other, could be paid after the expiration of the four years. The tenant could not obtain the Crown grant until he had resided on the farm during the three previous years, and made substantial improvements equal to 5s. an acre the first year, and 2s. 6d. during each of the other three years.

Credit for
five or
eight years.

In 1871 Regulations were issued offering certain lands for selection; when, upon paying 10 per cent. of the purchase, credit can be obtained for the balance at 5 per cent. interest for a period of five years, with the right of extension to the other three years.

Rights of
pasture.

The holder of any purchased land within a 'hundred,' not being within the limits of a District Council, is entitled to a Depasturing License over the unsold waste

lands near, at the rate of two beasts or twelve sheep for every five acres of his purchase. The fee is 3s. a head for horses or cattle, and 6d. for sheep.

Pastoral leases are granted beyond the limits of a hundred, for the period of fourteen years. Some land was assessed at 100 sheep per square mile, and another class at 250 sheep. But this has been altered to an assessment according to situation and grazing capabilities, excepting in cases otherwise determined.

The Act of 1867 divided lands north, north-east, and west of Port Augusta into A, B, and C districts. In the first a fourteen years' pastoral lease was to be granted at a minimum rent of 1*l.* per square mile, and an assessment of 6d. for a sheep, and 3s. for a horse or a beast. In B, the leases were for twenty-one years at 8s. 6d. per mile rent; and 4d. for sheep, with 2s. for larger animals. In C district the rent was 2s. 6d., and the assessment half of B rate.

Within a *hundred*, leases are annual only, though renewable until the land be required for public purposes.

By the Regulations of 1872 some alterations have been effected. All lands are to be thrown open for a year before being submitted for cash sales at auction. The fixed prices per acre may be as high as 2*l.* One-tenth is paid down as three years' interest in advance, together with cost (if any) of reclaiming and improving. At the end of three years another ten is required. The balance may be paid at the end of six years; if not, half the purchase must be paid, and the rest left for four years, provided the interest, at 4 per cent., be settled for in advance.

The selection cannot be for more than 6*l.* acres on credit. The selector or representative must be nine months each year resident, and break up a fifth of the land every year. All persons above eighteen have the privilege of selection, except married women. By a new law, land may be rented on two terms of fourteen years each. The rent for the first is 2s. 6d. per square mile, in addition to an assessment of 1d. for sheep and 6d. for cattle. If the land be resumed, payment is made for improvements. During the second term, the annual payments for rent and assessment are doubled. In regular land sales, the cash deposit is 20 per cent.

SOUTH
AUSTRALIA.

*Pastoral
leases.*

Varieties of
tenure.

New land
regulations.

Credit ton
years.

640 acres
on credit.

Unmarried
female land
selectors.

**SOUTH
AUSTRALIA.****IMMIGRA-
TION.**

Agent-
General's
offices.

Healthy
and moral
Colony.

Energy of
colonists.

Act 1878 allows new waste lands on 21 years' lease at 2s. 6d. square mile, and scrub land at 6d. an acre.

IMMIGRATION at the public expense had ceased in the Colony, excepting those nominated by persons in the Colony itself. In 1878, there arrived in port 14,572, and 8,174 left.

Emigrants paying their own passage out secure a Land Order, of the value of 20*l.*, the grant being issued after two years' residence in the Colony. A land allowance is made of 10*l.* for each child between one and twelve. The amount may go as deposit on purchase.

Assisted passages were afforded to labourers, artisans, and miners, with their families and servants; children under 12 paying 3*l.*; while 4*l.* would be paid by those between 14 and 40. Land orders on paying the balance.

The balance of passage money is required from persons if leaving the Colony within two years. The Agent's Office is in Victoria Street, Westminster, London. The expenditure for immigration in 1878 was 70,848*l.*

South Australia has such attractions in its corn fields, its vineyards, its copper mines, and in the enterprise, economy, and high character of its people, that it will not be forgotten or neglected by the prudent and thoughtful intending emigrant.

Hints.**Hints to Emigrants to South Australia.**

This land of corn and wine, of pleasant gardens and delicious fruits, of copper lodes and silver veins, although subject to so much dry heat, is far from being an unhealthy Colony. It should also be remembered that no settlement has been better favoured with the means of moral progression; while the zeal of religious bodies has not been one of jealous rivalry, but of working fellowship.

South Australia is an instance of the influence of character and intelligence, in enabling men to withstand the lassitude and sloth so frequently accompanying residence in a warm region; for no country has exhibited more indomitable energy and sustained industry. They work there in the harvest field with a thermometer running up above 100° in the shade, and take no siesta. They ride after wild cattle in the teeth of a wind as hot

as the blast of a furnace ; and they mine, quarry, and build with persistent steadiness in the heat.

The working man who is prudent in his habits may preserve his health better in South Australia, than in some climes with a lower atmosphere but more moisture. He would certainly be less exposed to colds, coughs, rheumatism, and consumption ; cases of sunstroke are far more uncommon than in America. Fevers have no holding ground in a land so absolutely free from malaria, and with such rapid evaporation.

A caution is needed to those who prefer brandy or beer to wine produced on the Adelaide plains, as the stimulating air sufficiently excites nervous affections. The old settlers, who so continually patronised the pannican of tea, suffered less exhaustion from the climate than imbibers of alcoholic liquors in hot countries.

An impression has prevailed that good land is of such limited quantity that it is hopeless to expect a farm in South Australia. The enormous amount leased out during the last few years is the best reply to this rumour.

To those able to stand a warm climate, the Northern Territory offers much temptation. No part of Australia is so favourably situated as that for becoming another Mauritius. Large sugar, cotton, and rice plantations can be formed there, as coolies from India or the Indian islands can be so easily obtained, and at a cheap rate.

The difficulty of importing Chinese labour into Queensland would not exist at Port Darwin. In the other colony the men are drawn off from plantation work by more profitable engagements over the country. In the Northern Territory they would be more isolated from other settlements ; but South Australians rather object to the introduction of coolie labour.

Squatters have no prospect of being undisturbed for many years in South Australia near any settlement.

The capitalist who invests in the formation of a station there, has considerable facilities granted him by the Legislature. There is a wide range of country from which to make a selection, and fresh explorations confirm the story of good pasturage being in the interior. One advantage is that he is not so likely to be cut off from civilisation, when advancing hundreds of miles from the settled quarter of the colony, as copper and lead mines

**SOUTH
AUSTRALIA.**
Climate not
objection-
able.

Land to be
had.

Advan-
tages of the
Northern
Territory.

Easy to get
labour.

Squatters a
free course.

SOUTH
AUSTRALIA.

Dry
climate.

Sink for
water as in
Canaan.

Cheap
farming.

German
settlers.

Mining
ventures.

Cheapest
colony.

are extending continually, both northward and westward, up to 400 and 500 miles, and railways are advancing.

The great objection to the occupancy of such Runs is the general aridity of the country. But it should be borne in mind that seasons of destructive drought are not so common but that a good time may be had out of the ordinary seasons. It is well that in the prevailing rock of the country, limestone, water is readily obtained by sinking; so that flocks are often watered from wells as those in Canaan were of old.

Farming, though confined to few products, has been, in spite of sunny days, neither unpleasant nor unprofitable. The easy terms upon which land is obtained, are recommendatory to the immigrant. The generally level character of the country makes it very easy to gather in the harvest by Ridley's machine, at little cost for labour.

Germans are extensively settled about the hills north, south, and east of Adelaide, as well as in the Mount Gambier District. As good judges of agriculture, their selection of land may be a guide to others, who would succeed the better by copying the sober and economical habits of these foreigners. As vine-dressers they have a deserved reputation.

Mining is the pursuit that rewards labour and enterprise. But new comers need be very prudent as to their investments, though copper mines have paid exceedingly well. Silver and gold, though less paying than copper, are worked to profit. Share speculations should be attempted with great caution.

South Australia is the cheapest Australian colony to live in; as meat and bread, vegetables and fruit, are all low in price. The people, too, have the reputation of being such friendly neighbours, that a comfortable home can be relied upon.

QUEENSLAND.

Discovery and History.

THE north-eastern portion of Australia has only been known as Queensland since 1859, although its shore appears to have been visited by Eredia, the Portuguese, in 1601. Maps exist of a much earlier date than that, in which a southern land is marked below Java.

QUEENSLAND.

Coast by
Eredia,
1601.

Torres, the Spaniard, has usually been called the discoverer of Cape York of Queensland. He spent two months in the strait called after him, and saw the coasts of New Guinea and New Holland in 1605. The Dutch sailors of the 'Duyfhen' are said to have landed on the eastern shore of the Gulf of Carpentaria in March, 1606.

Torres,
1605.

The Gulf was named after Carpenter, the Dutch Governor-General of Java. A Dutch navigator, Captain Pool, in 1636, met with the fate of Jans Carstens in 1623, being murdered by the savage inhabitants of Torres Strait. Pieterson, supercargo to Pool, sailed afterwards for 150 miles along the northern coast, but keeping out of the reach of natives.

Carpenter.
Dutch
visitors.

To Captain Cook was reserved the work of exploring the inlets of the whole eastern coast of Queensland, in 1770.

Capt. Cook,
1770.

He fell in with land near Cape Horn, on April 18, and followed it on to the northward as far as Cape York, giving names to capes and bays. Moreton Bay was called after his patron, the Earl of Moreton. Refitting in Endeavour River, he came in contact with the aborigines, and maintained friendly relations with them. Everywhere else seeing evidences of cultivation, he was puzzled at the total absence of fields among the Australians, and fancied their crops were at some distance inland.

Intercourse
with
natives.

In August of 1770, when on Possession Island, near Cape York, Cook claimed the sovereignty of the country

Cook
named land
N.S. Wales.

QUEENSLAND.

for George III., and called the whole eastern side of the continent *New South Wales*.

By virtue of that act, the colony was included within the area of New South Wales, when the penal settlement of Botany Bay was determined on, in 1787. Sydney was established in 1788, but no settlement farther north than Port Macquarie was thought of for many years.

Captain Flinders, 1802, at Moreton Bay.

In 1802, Captain Flinders, who had previously discovered the coast of the colony of South Australia, resolved to be the first to circumnavigate the continent of New Holland. Exchanging his shattered ship, 'Investigator,' for the 'Porpoise,' he left Sydney to complete the survey of bays previously noted by Cook.

After examining Moreton Bay, and discovering Port Curtis, he was shipwrecked on Barrier Reef. The energetic explorer, however, made a boat and sailed in it a thousand miles back to Sydney. Procuring the thirty-ton craft 'Cumberland,' he continued his voyage along the shores of Queensland.

Oxley to Brisbane River, 1823.

The interior of Queensland was first reached by Mr. Oxley, Surveyor-General of New South Wales. After discovering the Lachlan in 1817, the Macquarie in 1818, and then the Liverpool plains and ranges to the northward, he was directed by two runaway convict sawyers to the banks of a fine river, which he named after Governor Brisbane, in 1823.

Cunningham at the Darling Downs, 1827.

Mr. Allan Cunningham, the botanist of Sydney, had been requested by Mr. Oxley, when that surveyor was on his death-bed, to continue his work of exploration in the country to the west of Moreton Bay. In 1825, therefore, he started upon his journey northward. In April, 1827, he had the good fortune to come upon the garden of Queensland, the renowned Darling Downs. He named them after Governor Darling of Sydney.

Mitchell's explorations inland, 1846.

Major, afterwards Sir T. L. Mitchell, who first made known the rich pastoral plains of Australia Felix, was the successful explorer of some of the finest squatting regions of Western Queensland, in 1846.

As surveyor-general of New South Wales, he was properly provided for his expedition. In his march through the north-western part of the present limits of New South Wales, his party suffered much from the ex-

cessive heat and drought. His very kangaroo dogs were killed by the heat. But, once across the Darling, and entering the southern district of Queensland, he experienced only the pleasure of traversing a beautiful country.

In his enthusiasm, after the discovery of the Maranoa, the Claude, the Nogoa, the Belyando, etc., he declared his conviction that 'these beautiful recesses of unpeopled earth could no longer remain unknown.'

The back country of Maranoa, Warrego, West Leichhardt, and Mitchell was thus revealed by his celebrated and triumphal progress. The Mantuan Downs reminded him of Virgil, the pastoral poet. The soft, delicious landscape near one stream recalled to his mind the paintings of Claude, while the rugged beauty of the volcanic hills elsewhere brought up before his cultured fancy the pencil of Salvator Rosa. His Peninsular campaign with Wellington was remembered in the names he gave to places after brother companions in arms, as Nive, Hope, etc.

Coming upon a broad river trending to the north-west, the imaginative surveyor believed he had discovered a highway to the Gulf of Carpentaria; and he quitted the lily banks of the Victoria to announce in England his wonderful discovery.

Alas for the inexorable logic of facts! His assistant, Mr. Kennedy, left to follow the stream to the sea, found it turn round to the south-west, and its waters gradually diminish, till nothing but a parched channel remained. Though since called the Barcoo, this river, which loses itself in the desert of the interior, has some magnificent plains beside it.

Dr. Ludwig Leichhardt was pursuing his explorations through Eastern and Northern Queensland, while Major Mitchell was opening up the Western districts.

Without Government aid, helped only by the liberality of a few Sydney friends, this German naturalist, in the years 1843, 1844, 1845, and 1846, was able to examine and report upon the whole extent of Queensland, from its southern border to the Gulf of Carpentaria, keeping, usually, at no great distance from the coast line.

He recorded his gratitude to his aiding friends by calling after them the rivers Lynd, Macarthur, Cape,

QUEENSLAND.

Names given by Mitchell.

Victoria River, now the Barcoo.

Leichhardt in 1843 to 1846.

Across Queensland.

QUEENSLAND. Mackenzie, Isaacs, Suttor, and Burdekin. Rivers, also, were named after those gentlemen who accompanied him—Calvert, Gilbert, and Roper. Two black fellows, Harry Brown and Charley, were of great use to him. In 1848 he started on another journey, and has not since been heard of.

Kennedy in
1848
speared at
Cape York.

Mr. Surveyor Kennedy, in 1848, first attempted the exploration of Cape York peninsula. After enduring much, he was speared by the blacks when near Port Albany. His faithful native attendant, Jackey Jackey, brought back his papers to Sydney. The Messrs. Jardine were more fortunate in their enterprise there.

Burke and
Wills
through
Western
Queens-
land, 1860.

Messrs. Burke and Wills, in 1860, were the first to reach the Gulf of Carpentaria from Victoria, through the length of Western Queensland. Messrs. Landesborough, Walker, and others have followed in the exploration of the interior of the colony. Mr. Hann in 1872 made important discoveries in York Peninsula.

HISTORY.
Moreton
Bay dis-
trict till
1859.

Penal
settlement,
1823.

Darling
Downs oc-
cupied,
1841.

Opened to
free per-
sons, 1842.

Separation
from New
South
Wales.

The history of Queensland may be briefly described. Until 1859 it was known as the Moreton Bay district of New South Wales, though only the southern part was settled. After Mr. Oxley returned from the Brisbane, in 1823, the Governor despatched a party of convicts to form a penal settlement under a commandant at Moreton Bay. At first at Redcliff Point, it was afterwards removed to Brisbane. Ipswich was settled very early.

Free persons gradually made their way to this fertile region. The cedar was not less attractive, than the grass for stock. In 1841, however, the Messrs. Leslie, having been urged by Mr. Cunningham to take their flocks up to the good land he had discovered, were the earliest to occupy the Darling Downs, being rapidly followed by other squatters. So great was the *rush* thither, that the Sydney Government withdrew the convicts in 1842, and proclaimed Moreton Bay a free settlement open to immigrants.

The Rev. Dr. Lang was mainly the means of inducing British emigrants to go forth to the rich lands by the Brisbane and Condamine. The newly-introduced colonists were unwilling to be governed from such a distance as Port Jackson, and demanded Separation from New South Wales. After several years' agitation, and an animated discussion as to the readmission of convicts,

the majority gained their object—the establishment of a new colony, and one of freemen only.

Queensland was the name conferred upon the province, and the proclamation of its independence by Governor Bowen took place at Brisbane on December 10, 1859. Since that time, with but one short interval of trouble through over-speculation, the colonial history has been one of astonishing progress and success.

QUEENSLAND.

Queens-
land pro-
claimed,
1859.

Geography and Climate.

Queensland occupies the north-eastern portion of the continent of Australia, and was detached from the territory of New South Wales in 1859, as Victoria had been in 1850. Its area is 669,520 square miles, or 430,000,000 acres. The seaboard is 2,250 miles.

GEO-
GRAPHY.
Area 430,
million
acres.

On the east it has the Pacific Ocean; on the west, the north extension of South Australia; on the north, the Torres Strait, separating it from New Guinea; on the south, the colony of New South Wales.

Bounda-
ries.

Its western boundary is long. 141° E. from lat. 29° S. to lat. 26° , and goes backward thence to long. 138° up to the Gulf of Carpentaria. The greatest width on lat. 26° S. is 16° of long., or about 1,000 miles. While the sea in lat. 10° S. is the northern limit, the southern is not so determinate. From the seaside, the boundary is about 27° along a small range. It then proceeds by the course of the Dumaresq and M'Intyre rivers, and afterwards on the 29th degree to the western extremity. The greatest perpendicular length is 19° of latitude, or 1,300 miles. Taking its length another way would add some hundreds of miles more.

1,000 miles
wide.

The colony is naturally divided into four portions. A range of hills running nearly parallel to and not far from the coast, cuts off the so-called Pacific districts. Another range, transverse to this, throws the water northward to the Gulf in the Carpentaria country.

1,300 miles
long.

Westward there are two portions. The western interior receives the western drainage of the first range, with the southern fall of the other; but it has no sea outlet for its rivers, which are lost in the land, or ultimately gain the salt lakes of South Australia.

Four natu-
ral divi-
sions.

The remaining is the Darling area, receiving the

QUEENSLAND. south-western drainage of the main easterly range, and having its water system connected with the great Darling River. In this way, it has a communication by the Darling with New South Wales, and thence by the Murray with South Australia and Victoria.

Pacific districts.

The Pacific or Eastern districts are as follows, commencing from the south :—Moreton, Wide Bay and Burnett, Port Curtis, Leichhardt, Kennedy, and East Cook. Burnett is north of Moreton; Leichhardt and Port Curtis are north of Burnett; Kennedy is north of Leichhardt; and Cook, of Kennedy.

Carpentaria.

Western plains and Darling basin.

Districts described.

Burke district and West Cook are by the Gulf of Carpentaria. Mitchell and Gregory districts form the dry western plains. Warrego, Maranoa, and Darling Downs districts belong to the south-west Darling basin.

Of the thirteen districts, Moreton and Darling Downs were the earliest settled, and have the most farms and towns. The Western Interior is occupied, though but partially, with sheep. Burke, Warrego, Maranoa, Kennedy, Leichhardt, and Darling Downs are great pastoral districts. Sugar plantations are extending through the sea-board scrubs of Moreton, Burnett, Port Curtis, Kennedy, and Cook.

The auriferous country is chiefly in Burnett, Port Curtis, Leichhardt, and Kennedy, though attracting notice in Burke, Cook, and Darling Downs. The ordinary farmer prefers the uplands of the last-named district, as well as Moreton and Burnett.

Mountains.

Mountains.

The main range, though traversing the whole length of the colony, has few points over 3,000 feet in height. In its greatest width it spreads into fertile and healthy plateaux. The M'Kinlay and Mueller ranges to the west are not very elevated. The Lynd Peak and Expedition ranges are central. High land joins the New England of New South Wales on the south. McPherson is 6,000 ft.

Among northern peaks are Bellenden Kerr, 5,200 feet; Daintree, Surprise, Dryander, 4,500 feet; Abbot, Wheeler, and Elliott. Towards the centre are Narrien, Aldis Peak, Nicholson, Abundance, and Coxen. The Glass-houses are north of Brisbane. King, Playfair, Hutton, Bonwick, &c., are volcanic cones.

The Downs are elevated. Peak, Orion, Oxford, Mantuau, Albinia, and Valley of Lagoons are in Leichhardt. Natal, Avon, Burdekin, Cambridge, and Bluff are in Kennedy. Bowen, Western, Isis, and Emerald are by the Barcoo of Mitchell district. Ambi, Victoria, and Mitchell are in Maranoa. Canning, Acacia, and Cecil are in Darling Downs. Gregory, Leichhardt, Albert, Richmond, and Plains of Promise are in Burke district of the Gulf. Downs of black soil abound far west.

QUEENSLAND.
Downs.

*Rivers.**Rivers.*

The streams flow easterly to the Pacific, northerly to the Gulf, westerly to the desert, and southerly to the Darling basin. Few of the rivers are important; two of them only are navigable for a few miles from the coast; and many are but chains of water-holes the greater part of the year.

All the western fall is lost in sands. The Barcoo, or Mitchell's Victoria, rising near Tambo, receives the Alice and the Landesborough Creek or Thompson River. It is now found to join the Cooper's Creek near Sturt's desert. The Diamantina and Herbert are far west.

The northern rivers of the Gulf are the Staaten, the Mitchell, the Gilbert or Van Diemen, Norman, Flinders, Leichhardt, Albert, and Nicholson. The Saxby and Cloncurry join the Flinders, the Gregory flows to the Albert, and the Etheridge to the Gilbert. The Lynd and Walsh reach the Mitchell. The Endeavour, Daintree, Hann, Johnstone, and Palmer are in York peninsula.

On the eastern side, the Burdekin is the most important river of the north, the Fitzroy of the middle part, and the Brisbane of the south. Of the Burdekin the Clarke is a northern tributary, the Cape a western one, the Belyando a southern one, the Bowen an eastern one. The Burdekin waters drain Kennedy district. Herbert River is near Cardwell. The Pioneer reaches Port Mackay. Calliope is in Port Curtis.

The Western Mackenzie and Southern Dawson meet to form the Fitzroy. The Isaacs, Teresa, Nogoa, and Comet are branches of the Mackenzie. Leichhardt and Port Curtis are drained by these streams. The Mary and Burnett run through the Wide Bay district. The Bris-

QUEENSLAND. bane and its Bremer tributary reach Moreton Bay. The Logan is nearer the southern border.

The Darling Downs district is watered by the Condamine. This becomes the Balonne, and, after receiving the Maranoa, forms a part of the Darling waters. The Moonie and Weir join the M'Intyre, which, with the border Dumaresq, flow, also, towards the Darling. The south-western Warrego and Paroo may in floods run south into the Darling. Cooper's Creek is at the south-western corner, the continuation of the Barcoo.

Very few lakes.

Bays.

Queensland is singularly wanting in lakes.

Bays.

Coming southward from Cape York the following are successively passed:—Newcastle Bay, Shelbourne Bay, Temple Bay, Weymouth Bay, Princess Charlotte Bay, Trinity Bay, Rockingham Bay by Cardwell, Halifax Bay, Cleveland Bay by Townsville, Upstart Bay, Port Denison by Bowen, Broad Sound, Shoalwater Bay, Keppel Bay of Fitzroy River, Port Curtis, Hervey Bay, Wide Bay, Laguna Bay, and Moreton Bay of the south.

Straits.

The eastern part of the Gulf of Carpentaria is included in Queensland; and the western part in the northern territory of South Australia. Endeavour Strait is near Cape York. Torres Strait separates Cape York from New Guinea. A new Gulf port is by Point Parker

Capes.

Capes and Islands.

Cape York is in latitude $10^{\circ} 4'$ S. South of this, on the Pacific side, are Cape Grenville, Cape Direction, Cape Melville, Cape Flattery, Cape Tribulation, Cape Grafton, Cape Sandwich near Cardwell, Cape Cleveland, Cape Bowling-Green, Cape Upstart, Cape Edgecumbe, Abbott Point, Cape Conway, Cape Hillesborough, Cape Palmerston, Cape Clinton, Cape Manifold, Cape Keppel, Cape Capricorn, Bustard Head, Break Sea Spit, Sandy Cape, Double Point, Noosa Head, Point Wickham, Cape Moreton, Amity and Look-out Points, and Point Danger of the southern boundary.

Islands.

The Gulf Islands are the Wellesley of Mornington, Bentinck, Allen, Sweer. Near Cape York are Albany, Thursday, and Prince of Wales. Off the north-east

coast are the Claremont Isles, Lizard, Hinchinbrook of ~~QUEENSLAND~~, Rockingham Bay, Magnetic by Townsville, Whit-Sunday, Cumberland Isles, and Beverley group.

Curtis Island is north of Port Curtis ; Sandy or Frazer's off Wide Bay ; and Stradbroke, Moreton, Bribie, and St. Helena are in Moreton Bay. Barrier Reef is east.

The tides are 7 feet at Brisbane, 6 to 10 at Port Denison, 6 to 12 at Rockingham Bay, 9 at Rockhampton, 10 to 12 at Port Curtis, 4 to 10 at Cape York, 12 at Mackay, and 18 to 30 at Broad Sound and the Fitzroy River. Tides.

Towns.

Towns.

Brisbane, the capital, lat. $27\frac{1}{2}$ ° S. and long. 153° E., is on the river Brisbane in Moreton district. Rockhampton, the northern capital, is on the Fitzroy of Port Curtis, near the Tropic of Capricorn.

The eastern towns and ports are Maryborough, on the Mary, in Burnett ; Gladstone, on Port Curtis ; St. Lawrence, on Broad Sound ; Mackay, on the Pioneer ; Bowen, of Port Denison, in lat. 20° ; Townsville, of Cleveland Bay ; and Cardwell, of Rockingham Bay, lat. 18°. Somerset is near Cape York. Burke Town is the Gulf port of the Albert, and Norman Town of the Norman ; Cooktown on the Endeavour ; Palmerville on the Palmer.

Inland, Ravenswood of the Burdekin, Charters Towers, Dalrymple, Maryvale, Herbertsvale, Wyatt, Broughton, and Cape are in Kennedy ; Clermont, Copperfield, Nebo, Springsure, Taroom, Banana, and Gainsford are in Leichhardt ; Marlborough, Crocodile, Morinish, Calliope, and Princhester are in Port Curtis ; Cania, Perry, Bundaberg, Gayndah, Gympie, Kilkivan, and Nanango are in Burnett ; Ipswich, Beenleigh, Sandgate, Caboolture, and Logan are in Moreton.

The Darling Downs townships are Toowoomba, Drayton, Dalby, Warwick, Stanthorpe, Leyburn, and Condamine. Roma, Surat, and St. George are in Maranoa district ; and Charleville is in Warrego. Blackall and Tambo are by the Barcoo of the Western Interior.

As to distances—Ipswich is 25 miles from Brisbane ; Distances. Toowoomba, 105 ; Caboolture, 30 ; Warwick, 105 ; Gympie, 125 ; Maryborough, 180 ; Roma, 330 ; Gladstone, 350 ; Mitchell Downs, 340 ; Rockhampton, 450 ; Broad Sound,

QUEENSLAND.

500 ; Mackay, 630 ; Peak Downs, 600 ; Bowen, 720 ; Alice Downs of the Barcoo, 700 ; Ravenswood, 750 ; Townsville, 850 ; Cardwell, 950 ; Marathon of the west, 1,050 ; Burke Town, 1,450 ; Cook Town, 1,100, Somerset, 1,500.

Clermont is 150 from Broad Sound ; Ravenswood, 115 from Townsville ; Richmond Downs, of the Flinders, 300 from the Burdekin ; Westwood, 32 from Rockhampton ; Stanthorpe, 40 from Warwick ; Charters Towers, 100 from Townsville ; George Town, 230 from Cardwell and 250 from Norman Town ; Mackay, 90 from Bowen ; Gilbert Town, 300 from Burke Town ; Bowen, 715 from Burke's ; Hughenden of the Flinders, 480 from Gulf ; Palmer, 140 W. Cooktown ; Cloncurry W. of Flinders R. ; Hodgkinson, S. of Palmer ; Cork on Diamantina.

Climate.

Without saying with one writer, 'The climate of Brisbane is the finest of all the Australias,' it may be conceded that for most months in the year it is clearly so. The depressing heat of the summer is not so enjoyable. Brisbane, in the summer of 1872, experienced no greater thermometrical heat than London in 1874.

But so immense a country as Queensland has not the uniformity of climate which some may suppose. The dry and hot region of the Western Interior is different from the moist and hot Pacific division. Along the hills, again, another change may be had ; as, in winter, frost may occasionally be seen.

Many have asserted that the climate is quite unsuitable for Europeans, and especially for those who have to labour. An argument has been thence drawn as to the necessity for Polynesians to work in the tropics. But it is notorious that miners are engaged in their arduous toil every day in the year under a tropical sun, even within fourteen degrees of the equator.

One, writing from Brisbane at the beginning of last year, declares : 'I have lived in Queensland twenty years, and the whole of my observation and experience goes to form the solid conviction that all that has been said, or that can be said, about the unsuitability of the climate of Queensland for Europeans to be employed agriculturally, is only so much rotten rubbish.'

Possibly, if men lived more temperately, especially in

Not uniform.
W. is dry
and E. is wet.

Not unsuitable for
Europeans.

the use of alcoholic liquors, they would suffer less. But it is certainly a trying climate for some, while endurable for others. The plague of flies and mosquitoes does not increase the comfort. At the same time, Britain is not without drawbacks in frost and snow. Men very rarely lose a day's work through weather in Australia.

While the death-rate is so low in Queensland, as may be seen under the head of 'Population,' it would be rash indeed to pronounce the country unfit for Englishmen. If there are more low fevers, there are fewer colds; if more die from diarrhoea, fewer suffer from coughs. A man may, from delicacy of chest, emigrate to Brisbane with decided advantage to his health; but heart and nervous affections are more common there than in New Zealand, though consumption and rheumatism are less.

The heat is undoubtedly considerable; and it is felt the more from the moisture, as the rains of Queensland, unlike those of New South Wales and Victoria, prevail in summer. Still, relatively to other tropical and subtropical countries, the climate is wonderfully drier; while the absence of malaria, from the character of Australian leafless vegetation, prevents the occurrence of yellow fever, and other disorders usual in hot regions.

The winds are so much from the seaward, that the colony is benefited thereby in its climate. On the Darling Downs the cool south-east breezes blow seven months out of the twelve. At Brisbane, during 1871, the winds from the equator side were as 320 to 582 of those blowing from the pole, cooling more than heating.

The mean temperature for Brisbane is 69°, that of London being 50°. The changes of the thermometer have a far less range there than at Sydney, or even Melbourne. Without frost (but very occasionally at night) and without ice, the winters are very pleasant. Being without many visits from the hot wind, so common in the other colonies, the settlers may sometimes indulge in a hot bath, but rarely confront a fiery furnace.

Though Darling Downs has the finest climate in Queensland, the thermometer is often higher there than on the sultry tropical plains; but the heat is less exhausting because of the rarefied atmosphere.

There is a remarkable difference in the humidity of places in Queensland. While some parts on the coast

QUEENSLAND.

Drawbacks
of climate
in Britain.

Good for
chest dis-
orders.

Heat with-
out malaria.

Sea breezes.

Few hot
winds.

Humidity.

QUEENSLAND.

Dry climate to the westward.

Darling Downs.

Rain table of coast towns.

Rain inland.

GEOLOGY.

Two portions.

have as much as 100 inches of rain in the year, the Western Interior, about the Alice, Thompson, and Barcoo rivers, has sometimes not 10 inches, with an excess of evaporation. At the Mackay 16 in. fell in 24 hours.

Beyond the Dividing range the rainfall is always inconsiderable. Condamine, 180 miles from the sea, had, in 1871, but 18 inches in 47 days. Roma, 230 miles off, had only 13 inches in 1871, but 19 in 1878.

Darling Downs, though from 80 to 120 miles from the ocean, has sufficient rain in some parts. Toowoomba, being 1,900 feet high, had 61 inches in 1870, 27 in 1871, and 61 in 1872. Warwick had 28 in 1872. Ipswich, below the Downs, had 37 inches on 101 days in 1872.

The undermentioned places are near the seaside, and vary not only from latitude, but from local circumstances. Ascending from the south, we learn that in 1878—

Cape Morton	had 59 inches in	98 days.
Brisbane	56	" 134 "
Maryborough	40	" 72 "
Sandy Cape	42	" 97 "
Rockhampton	51	" 94 "
Port Mackay	86	" 103 "
Port Bowen	49	" 95 "
Townsville	38	" 77 "
Cardwell	98	" 111 "
Cooktown	50	" 141 "

At a distance from the sea a difference is seen in 1878.

Stanthorpe	40 inches.	George Town	33 inches.
Warwick	25	" Taroom	29 "
Dalby	21	" Clermont	29 "
Gympie	45	" Normanton	23 "
Ipswich	28	" Nebo	43 "
Toowoomba	29	" Roma	19 "
Gayndah	32	" Beechal	17 "

Queensland, therefore, though moist on the coast, has decidedly a very dry climate at but a moderate distance from the sea. The Monsoons give the north coast six months' wet weather in the year.

Geology.

Queensland may be said to consist, geologically, of two portions—the Western Interior of recent formation and the Eastern and Northern of primary and secondary rocks. Coal, gold, granite, slate, and basalt, found in the latter, seem almost absent in the former.

Almost all Queensland descended to receive the coarse and sterile coating of desert sandstone in the tertiary era. But while this surface is over some of the Western Interior, considerable areas have elsewhere been denuded, so as to expose other and more fertile formations. But for this great denudation, Queensland would now present as barren and wretched an aspect as most of the part we know by the name of Western Australia.

From better acquaintance with the colony, a more hopeful geology is now revealed even in the dreary interior, whose thirsty plains are covered with rich black soil and good grasses. But, taking the eastern portion, and the great Carpentaria country, few colonies can boast a geology so interesting and profitable as Queensland. Notwithstanding the researches of such colonial geologists as Messrs. Leichhardt, Gregory, Mitchell, Daintree, Aplin, Hodgkinson, Jack, our knowledge of the extensive area of the province is a very limited one.

The primary rocks constitute the dividing ranges. Granite is the coast guard. The coal formation lies between the coast range and the main dividing one. Gold appears in the granite by the sea, and in the palaeozoic rocks of the inland chains.

Of the older rocks, porphyry is seen at Cleveland Bay and Roby's range; mica slate at Endeavour River; quartzose slate at Cape Palmerston; quartz at the diggings' localities; mountain limestone at Camboon; magnesian limestone at Taroom; marble at the Calliope River; talc slate at the Endeavour, and serpentine at Marlborough. The M'Kinlay and Mueller ranges contain porphyry. Old rocks abound in York peninsula.

Granite continues, with few intervals, from Cape York along the coast to Broad Sound. It rises 2,500 feet on Hinchinbrook Island. Patches occur southward. The monoclinic felspar is said to be greatly in excess of the triclinic in the Dividing range. Hornblendic rocks prevail north of the Burdekin. The granite of the Ravenswood gold-field is called syenitic by Mr. Hacket, from the hornblende it has in association with felspar, quartz, and mica. Where the granite contains hornblende, the soil is better than where it is absent. According to Mr. Daintree, the granite area is not less than 114,000 square miles, or one-sixth of the colony. The

QUEENSLAND.

Desert sandstone.

Interesting geology.

Granite coast.

Primary rocks.

Granite localities.

QUEENSLAND.**Metamorphic rocks.****Carboniferous and Devonian.****Different from New South Wales and Victoria.****Upper and lower oolite.****Discovery of cretaceous beds.**

granite of Cape York and the islands of Torres Strait is connected with the granite of New Guinea.

The metamorphic rocks are strong in the diggings and near Brisbane, forming also the base of the Bunya-Bunya range. The country upon them is generally poor, and the grass is thin. Mr. Stutchbury called the Glass-houses of Moreton only metamorphic sandstones. The area of this geological division is said to be 20,000 square miles. Gold is found in these rocks.

Of the palæozoic rocks, the carboniferous extend over 14,000 square miles, and the Devonian over 40,000. The M'Kinlay range, 1,600 feet, contains much contorted rock. Palæozoic sandstones are reported on Groote Eylandt, in the Gulf, having a hard, crystalline aspect.

The Devonian formation of Queensland prevails instead of the Silurian, as in New South Wales and Victoria. It extends even 200 miles inland between lat. 29° and 18°; but it is less noticed north of lat. 18°. The plant-beds of Mt. Wyatt and the golden Canoona are upper Devonian. From the banks of the Burdekin to the Gilbert diggings, the Devonian rocks are thousands of feet thick. They are common also at Gympie, the Boyne, Talgai, and Lucky Valley. In a metamorphic state they are very deep on the Burdekin, and there they are thought by some to resemble the Silurian of Victoria. The copper of Peak Downs is in this formation.

Mesozoic conglomerate crops out on the Burdekin and the Clarke, and lies conformably with the palæozoic below. This position is maintained in the lower oolitic of the western Gordon Downs. The upper oolitic freshwater and estuarine beds are detected in the southern coal-field. Maryborough, with Hughenden and Marathon of the Western Interior, display portions of the upper oolitic series beneath the scrub or black soil covering. The Barcoo and Thompson are in mesozoic rocks.

It was in 1866 that Messrs. Carson and Sutherland, two colonial youths, discovered fossil evidences of a Secondary formation in Queensland. Up to that time little or no thought was directed to its existence. In fact, it was for a long period supposed by European philosophers that no secondary remains were to be observed in Australia. These cretaceous beds, first found on the River Flinders of Carpentaria, have been recog-

nised in other parts, to so great an extent, that Mr. Daintree regards the cretaceous area as 200,000 square miles, or one-third of the colony. Trias at Endeavour R.

The chief seat of the cretaceous lies to the north-west and west of the colony. Hydraulic limestone, underlying the dreary desert sandstone, is associated with gypsum. Mr. A. C. Gregory, in his exploration of Carpentaria, noticed streams issuing from this limestone on the sides of the sandstone table land.

The mesozoic carbonaceous beds, 10,000 square miles in extent, are of shales, limestone, and sandstone, with hydraulic limestone and coal. The secondary country generally is less fit for agriculture; as is a very large portion of both primary and tertiary, says Mr. Daintree.

Coal is found over an area of 25,000 square miles, nearly half the size of England. As it is highly probable that coal measures extend beneath the comparatively thin cretaceous beds of the western plains, a very much larger space may be hereafter discovered available for the operations of coal viewers.

The true coal containing the *Glossopteris*, *Spirifer*, etc., is seen on the Dawson, Comet, Mackenzie, Bowen, Don, Crackow, and Isaacs rivers. At Nebo, of the Leichhardt district, an excellent cannel coal will prove very valuable. One authority states that the Upper Dawson beds alone cover 10,000 square miles. Mesozoic coal is in the south.

Nearer the old settlements the coal has been worked, though much is of a mesozoic character. The Aberdare mine, near Ipswich, is so highly bituminous as to be supposed compressed peat. The seam is four feet thick. Through the Darling Downs a very large deposit has been traced, having good beds at Allora, Blackfellows Creek, etc. The Burnett district is rich in carbonaceous material. Near Toowoomba the vein rests upon fire clay. Some oolitic coal seams are lacustrine in origin.

Kerosene shale is very abundant near Taroom, of the Upper Dawson, and around Mount Hutton.

The volcanic area is considerable. Mr. Daintree speaks of the trappean as being 12,000 square miles, and the volcanic proper as 20,000.

The diorite, or greenstone, is an important rock there. It cuts the Devonian slates of the Boyne and Calliope; and it is occasionally, as in the Gipps Land of Victoria,

Mesozoic
coal.

Not much
farming
country.

Coal beds.

Coal work-
ings.

Coal of
Darling
Downs and
Burnett.

Keroseno.

Volcanic
rocks.

Greenstone.

QUEENSLAND.

a matrix of gold. Pyritous diorites and diabases are observed in the porphyry near the Gilbert and other northern streams. Pyritous felsites are said by Mr. Daintree to be limited in extent, though prevailing at Mount Wheeler and the Cape River.

Basaltic localities.

The Glasshouses—which those North Moreton hills so much resemble—have rather puzzled geologists. Called trachyte by some, metamorphic slate by others, the Rev. W. B. Clarke pronounces that they are as old as some of the slates. Mount Lindesay, 5,700 feet, consists mainly of trachytic basalt. True trachyte, like that of the Drachenfels on the Rhine, occurs near Gladstone. Clinkstone is common on the Suttor and the Christmas range. Porphyry runs under the southern coal-field.

The trap of the carboniferous period is chiefly dolomite. The same rock penetrates the desert sandstone in the Gilbert country. The quartzose porphyry of Brisbane is seen in mesozoic rock. The serpentines of Gladstone are rich in chrome iron. Ancient traps pierce the Expedition range, and divide the Dawson Valley from Burnett. The Peak Downs, with their singular-looking domes, reminded Leichhardt of the Puy de Dome of Auvergne. Mr. A. C. Gregory speaks of the trap in the coal as coming up through fissures.

Basalt has played an important part in more modern times, down to the close of the tertiary sandstone era. Cunningham's southern Dividing range is largely amygdaloidal; around Brisbane the stone is cellular: some in Moreton rises 4,000 feet above the bay. At Mount Owen and many other places the basalt issues through the sandstone. The shotstone of Mount Aquarius is of amygdaloidal origin. Dykes half a mile wide appear in the Burdekin limestone. Separation Creek was so named by Leichhardt as the division between the basalt and slate country.

Basalt of Downs.

The Downs and table lands are indebted to the basic basalts for their proverbial fertility. The Darling, Peak, Albinia, and other Downs have been flooded thereby. The Valley of Lagoons, Salvator Plains, and such like grassy retreats, have their productiveness from a similar cause. Rich downs far west extend 500 miles in a line.

Mr. Daintree was reminded, at Fletcher's Creek, of a 'walled city rained by an earthquake.' Prismatic

columns were seen by Landesborough on Gregory River. The sources of the Flinders, Gregory, Albert, and Nicholson are in basalt. This rock runs under the tertiary at Brisbane, and at Double Island Point of Wide Bay.

Craterform hills are common in the Dividing range, being seen, too, far north on the York Peninsula. Such mountains as Playfair, Pluto, Owen, King, Hutton, Lang, Bonwick, etc., were centres of igneous action. Three streams of lava are distinguished at the Valley of Lagoons. Local craters are found about lat. 19° and 20° . A fine one may be noticed in the Perry range. Another, near the Burdekin, is 500 yards wide. The flow in one part of the Burdekin has been compared to that of Keilor, near Melbourne. North of lat. 21° the basalts have been regarded as pliocene; and southward as miocene. Cooktown neighbourhood is volcanic.

The most recent action, perhaps, may be observed in the Murray Isles, off Cape York. Here ashes can be traced to the extinct craters. The volcanic conglomerate in Erroob Island contains blocks of lava as large as a man's head. And yet a stream of lava has flowed over this recent conglomerate. Ashes are strewn at the northern base of Mount Lindesay, and are seen with scoria in the Western Interior. Still, no part of Australia can compare with Western Victoria in a display of craters and ash.

Along the Queensland and New South Wales coast pumice has been found, as if thrown up by the waves, which have borne it from some distant seat of eruption. The line extends for 2,000 miles. Ash pebbles, of the size of walnuts, are spread along a raised beach, 15 feet high, at Cape Upstart. The deposit is not very recent.

Hot springs are almost wholly unknown. In this respect Queensland is very different from Northern New Zealand. There is, however, a hot alkaline spring in the Flinders country. The water contains 33 per cent. of carbonic acid, and 31 of soda.

Tertiary or cainozoic formations reach over, it is said, 150,000 square miles, or nearly one-fourth of the colony. These consist of conglomerates and the inhospitable desert sandstone. Much of that space, lying westward, is impossible for settlement, except for pasture; though fine oases and rich mineral deposits exist.

QUEENSLAND.

Extinct
craters.

Age of
basalts.

Volcanic
ashes.

Pumice on
the beach.

Unlike
New Zea-
land in hot
springs.

Tertiary
rocks.

QUEENSLAND.Source of
deserts.Desert
sands.Desert
sandstone.Romantic
landscapes.Varieties of
tertiary.

Upon the ordinary sandstone a coarser and looser variety exists in some places, and is the supposed source of some of the Australian thirsty wastes in Queensland, South Australia, and Western Australia. The sands, often, as in Egypt, resting on limestone, are blown up in parallel ridges like the deserts of Arabia and the Sahara. It was in such a part of the western border of Queensland that M'Kinlay saw the thermometer rise to 160° in the sun. The traveller thus remarks : 'The whole country looks as if it had been carefully ploughed, harrowed, and rolled, the farmer having omitted the seed.' Close by that are richly grassed pastures.

Generally the desert sandstone is conformable to the cretaceous beds beneath. When very ferruginous it forms the red rock of the flat-topped hills, so singular a feature in Central Australia. Some hills, by the Cloncurry of Carpentaria, are 3,000 feet above the sea. The table land by the Barcoo or Victoria extends to Cooper's Creek. Diorite often appears beneath the sandstone.

In places, the sandstone is very picturesque. Leichhardt compared some to ruined castles, and named Tombstone Creek from rectangular slabs of sandstone. Mitchell was reminded by it of the wild-looking pictures of Salvator Rosa. Gregory spoke of the deeply serrated edge of the table land, and saw gorges in it several hundreds of feet deep. One escarpment was 600 feet. On the Gilbert the rock shows lofty and beautiful pinnacles. The tertiary or cainozoic is over the cretaceous in the north. While having leaf beds, Queensland tertiary has, like New South Wales, no marine deposits.

The geologist of the exploring party in 1856, Mr. Wilson, observed different strata in the tertiary of the northern table land. The upper, 300-400 feet, was in thick beds of sandstone, capped by iron ore. Under that was a silicious sandstone, with but little stratification. A bluish, slaty stone followed, and was succeeded below by a limestone. The limestone passed into shale, and the shale into lower sandstone. At a distance of 300 miles from the Gulf the elevation was 1,600 feet. The flat-topped hills appeared to him chiefly silicious sandstone. His leader, Mr. Gregory, refers to the Gulf range as horizontal bands of sandstones on shales, and coarse silicious limestone with jaspers. Near the Gulf, a calca-

reous breccia abounds. Blue clay and fern leaves are conspicuous on the M'Kenzie Plains.

QUEENSLAND.

The flat-topped hills of Australia have excited much interest. They point to an extensive and prolonged state of denudation, which left these landmarks of history. Professor Agassiz describes those of Brazil as 'the remnant of a plain that once filled the whole valley of the Amazon from the Andes to the Atlantic.' And yet Mr. Wilson, the geologist of Northern Australia, believed in the evidence of a much higher elevation, by at least 2,000 feet.

Flat-topped hills.

The *Barrier Reef* of Queensland, 1,200 miles long, is a wonderful geological curiosity. There is to be found every description of coral formation—atolls, fringes, etc. At first it was a fringing reef, but got separated from the shore as the Australian land descended. The coralline animalcules continued to build upon the sinking reef. Part is now 2,000 feet deep. The width in lat. $22\frac{1}{2}$ ° S. is 90 miles. There are many gaps in the barrier; one of these is 12 miles across. Between lat 12° and 14° the reef is double. The inner part is five to fifteen miles from the shore. The sea north of the reef is found to be 27,000 feet in depth. The uncovered area of the great reef is about 30,000 square miles.

Queensland once 2,000 feet higher.

Barrier Reef of coral.

The metallic wealth of the colony is considerable. Gold is found in slate, serpentine, greenstone, granite, etc. It occurs at the junction of the metamorphic slates and tertiary sandstone at the Cape and Charters Towers diggings. It is at the Gilbert where trap meets the Devonian rock. In the New Zealand gully, of Rockhampton, it occurs in a mass of chloride of silver; and on metamorphic rocks at the Cape River, Peak Downs, Cloncurry, Kilkivan, Ravenswood, etc. It is gathered, in the Cape district, where acid felspathic dykes traverse mica and hornblende schists. The serpentine locality for gold is the Gladstone neighbourhood.

Metals.

Where gold is found.

For further information upon metals the reader is referred to the chapter on Mining.

The fossils of Queensland are, in some cases, similar to forms now existing there. Crocodiles, 20 feet long, are disinterred from the hardened volcanic mud far in the interior, where deep bays once existed; in modern days the Queensland alligators are formidable in looks.

Fossils.

QUEENSLAND.

The Monitor of the Condamine was 20 feet, and showed, said Leichhardt, that 'the conditions of life have been very little changed.' The fish Ceratodus is found there.

Prof. McCoy has done much service to science in making known the wonderful fossils of Queensland.

The Diprotodon.

The Diprotodon, the huge marsupial, herbivorous animal, has been discovered in several parts of the colony, especially on the Darling Downs; where also the Notatherium, of the size of a large ox, was known. Enormous kangaroos have left their remains by the Isaacs and other rivers. The Enauliosaurus, an Australian ichthyosaurus, 20 feet in length, once floated in the waters of Northern Queensland. Its bones lie in the cretaceous rocks of the Flinders. A plesiosaurus, 40 feet long, was its companion. The eye was five inches in diameter in one of 25 feet. The large flapper had eight rows of bones. Belemnites and ammonites are common at the head of the Flinders River. Fossils of huge animals were lately seen by Mr. Hann, in York peninsula.

Huge fish lizards.

The flora of the Dawson coal-field is very fine. There are sigillariae, calamites, lepidodendrons, zamias, ferns, etc. Mesozoic fresh-water plants are repeatedly turned up between the range and the sea about lat. 20° S. Very large fossil fruits are found on the Peak Downs. Of 27 species of carboniferous and Devonian fauna, nine are known as English fossils; and of 25 cretaceous ones, two only are English. Fossilised wood is common west of the Barcoo.

A full description of Queensland fossils, up to a certain date, may be seen in the Transactions of the Geological Society from the pen of Mr. Daintree.

The monster bird. Australia and New Zealand once united.

The most remarkable fossil form yet discovered there has been the Dinornis, a gigantic bird, which identifies the continent of Australia with New Zealand. This enormous creature once, doubtless, could travel along the plains formerly uniting these two countries, now separated by the ocean 1,200 miles wide. The east coast is sinking.

GOVERNMENT.

As Moreton Bay district, ruled from Sydney.

Government.

As the Moreton Bay district, the country was governed by Sydney from 1823 to 1859. Eight commandants successively ruled in Brisbane when a penal settlement.

In 1842 the district was thrown open to the public, and some extent of freedom was granted, as one member for

Moreton Bay was elected for the Sydney Legislature. Ten years after two members were returned. After the reconstruction, consequent upon the new Constitution in New South Wales, all the colony north of the Clarence River, including all the Moreton Bay district, sent nine members. This was in 1859.

An attempt was made, in 1846, to organise a new colony at Port Curtis. After living four months in tents, the officials from England set sail home again, alleging the utter unsuitability of the country for settlement. New South Wales, therefore, resumed its government over what is now known as Queensland.

After the arrival of the first free emigrants from Britain, in 1849, a demand for separation from Sydney rule arose. Port Phillip commenced the same cry some years before, and gained its independence in 1851. The Moreton Bay settlers were not free till December 10, 1859, when the colony received the name of Queensland. The boundary, which had been from 30° to 26° , was extended to Cape York.

New South Wales, the parent, was allowed to nominate eleven of the fifteen members of the first Legislative Council of Queensland, who were to serve for five years; the other four were elected in Brisbane for life. By the Act of 1865 the number was raised to 21, and their position was secured for life.

The Legislative Assembly consisted of 26 persons in 1860, and 32 in 1864; their term was for five years. In 1877 the colony was divided into 40 electorates, that return fifty-five members to the Assembly. The members are not yet paid during the sitting of Parliament.

The Parliament of Queensland is become more democratic. The franchise was not an extended one at the beginning. In 1867 the number was increased; and all men having a freehold of 100*l.*, or paying a rental of 10*l.* for six months before the time of registration, could secure a vote. Lodgers at a rent of 10*l.*, or paying 40*l.* a year for room and board, were entitled to the privilege. No stipendiary magistrate, soldier, police clerk, or constable could vote. All holding university degrees had the franchise, irrespective of rental. Aborigines, Chinese, and Polynesians, with all naturalised foreigners, obtain the like liberty if possessed of the property qualification.

QUEENSLAND.

Failure of
new colony
at Port
Curtis.

Separation
from New
South
Wales in
1859.

First Par-
liament.

Life mem-
bers in the
council.

Five years
in As-
sembly.

Franchise
extended.

QUEENSLAND.

Municipalities.

Revenue
for 1879.
Expenditure
and
debt.

Penal dis-
cipline.

Probable
subdivision
into several
colonies.

POPULA-
TION.

Four races
there.

Aborigines.

Rapidly
dying off.

The settled parts of the colony are in the municipalities. These received, in 1871, the sum of 16,132*l.* from Government, and raised 22,424*l.* The rate runs from 8*d.* to 1*s.* in the pound.

The net revenue for the year ending on June 30, 1879, was 1,461,835*l.*, and the expenditure was 1,678,631*l.* The public debt has been increased to eleven millions by the demand for immigrants and railways. The revenue has been steadily increasing since 1860, when it only reached 178,589*l.* In 1878, the customs gave 571,731*l.*; land, 459,680*l.*; pastoral rents, 156,195*l.*; railways, 237,000*l.*; stamps, 52,395*l.*; and excise, 33,225*l.* The estimated revenue for 1879-80 was 1,658,000*l.*, and expenditure 1,600,000*l.*

The Government place criminals on St. Helena Island, in Moreton Bay, and so utilise their labour on sugar and tobacco growth that the expense of their maintenance is but 3*d.* or 4*d.* a head for the year.

It is not improbable that, in a few years' time, Queensland may be divided into several colonies, as New South Wales has been. Already the northern settlers of Rockhampton complain of being governed from Brisbane. Some seem to propose the latitude of Cape Palmerston as the line of separation. The essentially pastoral country to the westward is interested in a very different policy from that adapted to the south-eastern district, where commerce prevails, and where manufactures must arise. The mining districts, again, have different interests from the agricultural ones.

Population.

Four races may be said to form the population of Queensland, viz.: the *Blacks*, or aborigines; the *Whites*, or those of European origin; the *Yellows*, or Chinese; and the *Brown Blacks*, or Polynesians. The last, by the returns of 1878, were 6,000 in number; the Mongolians were 14,500; the *Palefaces* were 190,000. The population, Dec. 31, 1878, was 210,510; females 65 percent. of males.

As to the NATIVES, no accurate return of their tribes has ever been attempted. Calculations have varied as to the amount, from 10,000 to 50,000. Wherever food is plentiful and water accessible they are the more numerous. But, from various causes, they are so rapidly

decreasing that their extinction may be looked for at no great distance of time.

In Queensland they live not only upon the chase, but have their annual feasts on the fruit of the Bunya-Bunya trees, which, on that account, are not allowed to be cut down by sawyers for timber. To the westward, as on the Barcoo, Cooper's Creek, etc., they eat the seeds of a sort of wild millet, called the *Nardoo*.

Their customs differ little from those of other parts of Australia. Circumcision has been found in some northern tribes; while castes, and peculiar laws as to intermarriage, are known to exist widely. Their repeated conflicts with the settlers in newly-opened districts have often arisen from cruelties practised by the whites, not less than from resentment at the invasion of their hunting grounds.

The Black Police, an organised body of armed aborigines, under the command of Europeans, have secured the safety of settlements from the inroads of disturbing tribes, though often by indiscriminate slaughter.

All attempts to Christianise the race seem to be failures. The most important of the missions were those of the Lutherans at Moreton Bay, and of some Italian priests further north. Both parties attribute their failures to the presence of bad whites. The only mission at the mouth of the Noosa, by Fraser Island, is removed to Hinchinbrook Island.

The CHINESE arrived in former times to be servants and cooks on stations, but are now almost wholly engaged in mining, gardening, or fishing. They are generally an industrious, a prudent, and an orderly population. By the last census there was but one Chinese woman in Queensland. Dr. Lang, who has no fancy for the wifeless Chinamen, once gave the following toast:—‘The Chinese Ladies: and long may they stay at home by their own firesides! ’

The POLYNESIANS were first imported into Queensland, by Captain Towns, for cotton growing on the Logan, in 1863. They are commonly called *Kanakas*. They are not the light-coloured islanders, as Tahitians and Samoans, but the darker tribes from the New Hebrides, and other Papuan-Polynesian isles.

In 1871 there were but 47 women to 1,305 men. It

Circumcision in the north.

Black Police.

Missions.

Chinese.

Poly-nesian.

QUEENSLAND.

No children.

Protecting laws for Polynesians.

is a significant statement that there were few, if any, children among them. Up to 1878, 14,000 had arrived, 6,000 returned, and 1,700 died.

By the Queensland Act of 1868, the natives are brought to the colony for three years. The master is bound to give them certain rations and 6*l.* a year wages, besides finding them a return passage home. The import cost of a Polynesian is about 12*l.* There can be no transfer of these apprentices without the consent of Government. They are subjected to imprisonment if absconding from employment. Though fairly treated, the great mortality among them is much to be regretted. As servants they are generally docile, good-tempered, and intelligent.

The white population is thus classified, as to birth-place, in the admirably arranged census returns, 1871:—

Birthplaces of the people.

Place	Males	Females	Total
Queensland . . .	18,501	17,911	36,412
Other Australian colonies . . .	6,220	4,711	10,931
England . . .	16,851	9,445	26,296
Ireland . . .	11,540	9,432	20,972
Scotland . . .	5,333	3,231	8,564
Germany . . .	5,401	2,916	8,317
France . . .	156	32	188
Europe, less France . . .	1,174	276	1,450
British America . . .	379	109	488
United States . . .	161	54	215

Occupations.

As to occupations, while 11,360 men were engaged on stations, there were but 330 women. On farms, 13,732 men and 2,066 women were employed. On the gold-fields, 2,953 worked at alluvial diggings, and 3,183 at quartz mines. About 1,400 were variously labouring on other mineral enterprises.

Population of towns.

The towns' population was not large at the end of 1871, as may appear from the following statement:—

Brisbane . . .	19,413	Townsville . . .	1,140
Rockhampton . . .	5,497	Rome . . .	841
Ipswich . . .	5,092	Mackay . . .	729
Toowoomba . . .	3,628	Gayndah . . .	671
Maryborough . . .	3,542	Gladstone . . .	416
Warwick . . .	2,228	Springsure . . .	370
Dalby . . .	1,647	Cardwell . . .	96
Clermont . . .	1,222	Somerset . . .	11

Though the births of male children have uniformly been in excess of those of female, the proportion of the sexes in the colony has been little changed during the last ten years, being as three males to two females.

This relation differs according to age, being about equal in tender years, and changing considerably at a later period. Thus, according to one of the recent returns, there were—

7,409 men to 3,241 women between 40 and 50 years.					
3,135	"	1,489	"	50	" 60 "
1,051	"	510	"	60	" 70 "
227	"	109	"	70	" 80 "
30	"	18	"	80	" 90 "
7	"	2	"	90	" 100 "

QUEENSLAND.

Three
males
to
two fe-
males.

Census of
sex.

Women about equal the men in the towns of Brisbane and Ipswich, but are considerably in the minority in remote districts. At the established diggings they are rapidly gaining in proportionate number, though few at the new *rushes*. In one of the more recently occupied pastoral districts there are 20 men to one woman.

The *births* in 1878 were 7,397; though the *births* were three times the *deaths* in 1872; illegitimate only 3 per cent. The *marriages* were 1,444. In 1877, the *births* were 36·74 per thousand; *marriages*, 7·57.

The death-rate is slightly heavier than in some more settled colonies. This is partly to be accounted for by the greater vicissitudes to which health is exposed in so many persons wandering in a new land, engaged in hazardous employments, unprovided with the comforts and conveniences of more settled places, and too often indulging to excess in spirituous liquors.

The *deaths* were 3,373 in 1877, but 4,220 in 1878, a hot year. Yet even then the country parts averaged 17 per thousand, while England stood at 23. Sanitary improvements in Brisbane will rectify the high death rate of towns. Excessive mortality among wifeless Chinese and Polynesians places Queensland at greater disadvantage compared with other colonies than climatic difference warrants.

Marriages.—On this head, the statistical records of the colony, especially those for 1877, afford the means for presenting some curious and interesting tables.

The number joined together that year came to 970. Old custom drew nearly nine-tenths of these to a reli-

Equal in
Brisbane.

Twenty
men to one
woman.

Births.

Causes of
high death-
rate.

Mortality
greater with
the males.

QUEENSLAND.

gious service on the occasion. And yet not only may registrars tie the knot, but, in sparsely populated parts, where those gentlemen are few and far between, a justice of the peace has authority to marry parties. One-fifth the number were married by ministers of the Church of England, and about as many by priests of the Church of Rome.

The proportion of marriages to population has fluctuated, as will be seen in the annexed table :—

Proportion
of mar-
riages.

Year	Marriages	Population	Per thousand
1860	278	28,056	10.09
1861	320	34,307	10.72
1862	570	45,077	7.9
1863	774	61,640	7.96
1864	951	74,036	7.78
1865	1,074	87,804	8.17
1866	1,068	96,201	9.0
1867	935	99,849	10.67
1868	863	107,427	12.44
1869	903	109,897	12.17
1873	1,354	140,122	9.32
1878	1,444	210,500	7.0

Number of
married
people.

There were, in 1871, 11,828 husbands under 40, and 6,965 over that age. The wives were 13,744 under, and 4,326 over, 40. In 1871, 18 males and 257 females married under 21 years; 585 males and 581 females between 20 and 30; 293 and 107, respectively, between 30 and 40; 55 and 18 between 40 and 50; 20 and 7 over 50 years. Most men married at 27, and most women at 21.

The complete table of the *married* people in the colony was the following :—

Marriage
age.

Ages	Males	Females
15 to 20	11	437
20 " 30	3,569	6,787
30 " 40	8,248	6,520
40 " 50	4,324	2,848
50 " 60	1,907	1,166
60 " 70	610	273
70 " 80	112	36
80 " 100	12	3

The *unmarried* numbered thus :—

QUEENSLAND.

Unmarried.

Ages	Males	Females
15 to 20	4,149	3,331
20 " 25	4,770	1,707
25 " 30	5,868	744
30 " 40	7,189	385
40 " 50	2,714	95
50 " 60	895	33
60 " 70	252	14
70 " 80	54	1
80 " 100	12	0

The widowers under 40 were 327; and the widows, 344. Over 40, the former were 913, and the latter 944. While there were 13 widowers between 80 and 100 years, there were not less than 17 widows.

Widows
and
widowers.

The full story of widowhood is thus told in the statistics :—

Ages	Widowers	Widows
Under 20	0	1
Between 20 and 30	52	165
" 30 " 40	275	278
" 40 " 50	337	297
" 50 " 60	317	335
" 60 " 70	185	223
" 70 " 80	61	72
" 80 " 100	13	17

The bachelors marrying spinsters came to 80 per cent., and widows $1\frac{1}{2}$. The widowers selecting spinsters were $7\frac{1}{4}$ per cent., and widows $2\frac{3}{4}$.

Bachelors
and
spinsters.

The selection of partners was curious in a national point of view. Thus, the 536 Englishmen, marrying in 1877, chose 240 English, 105 Irish, 31 Scotch, and 128 Colonial women; but 425 English women selected 28 Irish, 31 Scotch, and 76 Colonial men, beside the 240 countrymen. Then 121 Scotchmen had but 33 Scotch wives, 31 English, 19 Irish, and 32 Colonial. But the 99 Scotch women joined to 31 English, 9 Irish, 17 Colonial, and 33 countrymen. Irishmen preferred their own race; 294 having 194 Irish, 53 Colonial, 28 English,

Marriage
nationali-
ties.

QUEENSLAND.

and 9 Scotch. The 402 Irish wives, besides country-men, chose 105 English, 19 Scotch, and 41 Colonial.

The Colonial-born men favoured their Colonial sisters as much as the latter regarded them. 213 Queensland women married 38 Queensland men, 14 Sydney, 67 English, 41 Irish, 20 Scotch. 90 men chose 21 English, 15 Irish, 8 Scotch. The 131 Germans chose 82 German, 10 English, 15 Irish, 4 Scotch, and 15 Colonial.

This singular interchange of nationalities is not peculiar to Queensland, but is a happy characteristic blending of races throughout the colonies of Australia and New Zealand, tending to the destruction of absurd national prejudices, and the development of genuine equality and fraternity.

Blending of races.

*EDUCA-
TION.*

*Vested and
non-vested
schools.*

*No inter-
ference
with re-
ligious in-
struction.*

*Low aver-
age attend-
ance.*

*Schools and
cost.*

*Grammar
schools.*

Education and Religion.

Queensland has honourably distinguished itself in the work of public instruction.

The Education Act of 1860 recognised *vested* and *non-vested* schools under the Board. The latter—which are denominational schools—receive aid from the State if affording secular instruction to all comers for four consecutive hours. There is, however, ‘no inspection of, or interference with, the special religious instruction which may be given in any such school during the hours set apart for such instruction.’ There is a Normal school.

In 1878 there were 38,646 children upon the roll in public schools, but only 19,945 in attendance. Private schools in the country showed an average attendance of 87 per cent. The parents among the working classes in the colony have, perhaps, great need of help from their children in the field and in other employments.

Of 286 schools in 1878 there were 182 vested, 23 non-vested, and 81 provisional. The last-mentioned are situated in districts where a full complement of pupils cannot be had. The total expenditure was 103,037*l.* There were 482 teachers, and 294 pupil teachers.

State assistance is given to Grammar schools for the middle classes. Where 1,000*l.* can be raised for such an object, the Treasury gives double that sum, in addition to land for the institution. If the trustees pay 250*l.* for salaries of teachers, the State grants 500*l.*

Teachers are classified according to attainments, and paid accordingly. Since the Legislature threw open all schools without charge, teachers have received an increase of salary to compensate for the loss of fees. Sectarian schools lose all State support in 1880. The Queensland Parliament has now made education compulsory and free, even allowing access to grammar schools and the University without payment.

Mechanics' Institutes, Free Libraries, and Schools of Art are liberally supported by the Colonial Government. Queensland has, in respect to liberality in education, set an example to the colonies. There are 50 newspapers. The Cooktown 'Courier' was begun at the Palmer Diggings in March, 1874.

It is quite a mistake to suppose that the Queenslanders are indifferent to the question of religion; although, it must be admitted, the migratory life so many are obliged to live, and the vast area occupied with so few people, are serious drawbacks to church-going. In England, with a concentrated population, an Established Church, and an active Nonconformity, it is found impossible to overtake the growth of cities with religious means: how much more difficult in Queensland!

One of the earliest accounts of religious services there is given by Mr. Backhouse, the Quaker missionary, who visited Brisbane in 1836. Alluding to his address to the prisoners, he says: 'They, with the military and civil officers, whether Protestant or Roman Catholic, assembled as on First Days in the chapel; where the prayers and lessons of the Episcopalian church, with a few omissions, in deference to the Roman Catholics, were read in a becoming manner by the Superintendent of Convicts.'

The free immigrants who arrived in 1848 and 1849 exercised a happy influence on the society of Moreton Bay, in checking intemperance and irreligion. The Brisbane 'Courier,' of October 3, 1872, observed: 'The criminal record this month is almost a blank, and it is not in our power to indulge the British reader with anything sensational in the way of murder or bush-ranging. The improved morality of the people may be attributed, in a great extent, to the remarkable spread of teetotal principles.' This year tells the same tale.

QUEENSLAND.

All schools free.

Mechanics' Institutes, Free Libraries, and Schools of Art.

RELIGION.

Scattered population a difficulty.

Early service.

Influence of free immigrants.

Moral condition of Brisbane.

QUEENSLAND.

Ministers of denominations.

No State aid to religion.

Protestants and R. Catholics.

Denominations and numbers.

Other sects.

Agree to differ.

There is now a goodly array of pastoral agencies in the colony. The Church of England has a bishop and 36 clergymen. The Church of Rome has a bishop and 28 priests. There are about 20 Presbyterian ministers, 37 Wesleyan, 30 Independent, 20 Baptist, 7 Primitive Methodist, 2 United Methodist, 1 Bible Christian, 2 Free Church of England, and 9 Lutheran German.

One of the first Acts passed in 1860 by the first Parliament of Queensland was the so-called separation of Church and State; as, being formerly a part of New South Wales, all ministers there were free to accept of State pay in proportion to the census number of their respective denominations.

Owing to the large amount of Irish immigrants some years ago, the Roman Catholics numbered 31,882 in 1871 to 80,475 Protestants; the relation is less now.

According to the Registrar-General's statement, the returns as to religious professions are not quite reliable, as collectors are tempted to exaggerate certain numbers; but the following was deemed approximately correct:—

	Males	Females	Total
Church of England .	26,320	17,444	43,764
Roman Catholics .	17,465	14,357	31,822
Presbyterians .	8,959	6,414	15,373
Methodists (various) .	3,835	3,371	7,206
Independents .	1,398	1,249	2,647
Baptists .	1,506	1,391	2,897
Lutherans .	5,281	3,307	8,588
Jews .	201	90	291

Among other opinions the returns included Swedenborgians, Shakers, Parsees, Greek Christians, Disciples, Evangelists, Quakers, Israelites, Mormons, Unitarians, Atheists, Protestant-Catholics, Free Thinkers, and one Calathumpian.

In Queensland, as elsewhere in the colonies, with no pressure on conscience, a friendly spirit exists among those of different views.

PASTORAL.

Squatters founded the free colony.

Pastoral.

Though the colony had its birth at Brisbane, commencing as a penal outpost of New South Wales, in

1823, its active and independent existence, apart from Government tutelage, began with the earliest Darling Downs sheep stations from 1840 to 1842.

QUEENSLAND.

The squatting reputation gained by that district of old has been ever since maintained. Excepting, perhaps, some parts of Victoria, the finest pastoral properties of Australia are seen at the Darling Downs, where sheep-station holders are princes indeed. When the Messrs. Leslie Brothers settled on Canning Downs in 1840, much privation was experienced, and not a little danger from savage tribes. Now, however, the refinements of civilisation can be enjoyed there.

Darling
Downs the
best dis-
trict.

Men of small capital must go farther than Darling Downs. Much loss followed the indiscreet selection of localities for sheep toward the coast, since occupied by horses and cattle. It is not true of the Tropics that the wool turns there to hair. This subject was once discussed before a learned society in London, when it was affirmed by a man of science that it was impossible to grow wool in hot countries. Mr. Landesborough, the Queensland explorer, being present, asked how it was, then, that negroes were raised there.

Wool-grow-
ing in the
tropics.

A part of the colony, north-east of Flinders River, is plagued with a poison plant, bearing a delicate white flower, but for which sheep have a fancy. The highlands of Kennedy, Leichhardt, Warrego, and Maranoa are favourable for sheep, though the fleeces are not so heavy as in Victoria, Tasmania, and New Zealand. The dry but fertile plateaux westward are better fitted for sheep than cattle, and are being rapidly taken up.

Poison
plant.Land for
sheep.

Horses and cattle are profitably kept on the lower, hotter, but better watered plains, as well as upon the hilly country. India opens a market for the first, and Britain for the last.

Horses and
cattle.

Squatting, like other good things of Australia, suffered awhile from absurd speculation, followed, unfortunately, by two seasons of drought. High prices of purchase, careless management, poor grass, expense of carriage of stores, with high interest, brought on a sad loss for many new comers. A succession of good seasons, with judicious management, changed the squatters' fortunes.

Squatting
troubles.

The meat-preserving interest became the friend in Meat-pre-
serving.

QUEENSLAND.

Liebig's
extract
made in
Queens-
land.

*Pastoral
prospects.*

Stock in
1880.

Runs three
farthings
an acre in
settled dis-
tricts.

In unsettled
districts,
1-5th of a
farthing.

Wool
export.

Cattle runs
easily
obtained.

need. Fat sheep, cattle, and even horses, could be boiled down for tallow; but, made into tinned meat, a better price was obtained for beef and mutton.

At a large *boiling-down* station, eight miles from Maryborough, a large amount of Liebig's Extract of Meat is prepared. It takes 40 lbs. of meat to make 1 lb. of extract. The hides are tanned on the premises. Pigs fed upon the offal are boiled down for lard. The extract is put into large tin cylinders for export.

A new compressing process, with the Bell-Coleman freezing one, will revive the pastoral interest. There is no want of good sheep pastures. Explorations have revealed magnificent country in the west, especially the Diamantina and the Herbert districts, once believed to be desert. Land improves by use. The fine Barcoo region of the west is more fattening than ever.

The progress of the pastoral district may be gathered from the following statistics:—

Early in 1880 it was reported that there were 7,000,000 sheep, 3,500,000 cattle, and 160,000 horses.

The *settled districts* contain 87,220 square miles, or 56,000,000 acres. Of these 6,559,596 were then leased out in 177 runs, paying to Government the moderate sum of three farthings an acre.

The *unsettled district*, comprising the rest of the colony, has an area of 582,300 square miles, or 370,000,000 acres. But the squatters had spread only over 204,000,000 acres, or not one-half the area, in 5,755 runs. The annual rental charged was about one-half of a farthing per acre.

The wool export for 1877 was 1,499,682l.; tallow, 73,006l.; hides, 66,158l.; preserved meats, 89,652l. The drought of 1876–7 destroyed a number of sheep. In 1878, Darling Downs district had 1,770,998; Leichhardt, 1,174,116; Mitchell, 1,002,741; Warrego, 744,384; but Wide Bay had but 9,000, being too near the coast for sheep, though famous for cattle.

Cattle runs have greatly advanced in price since meat-preserving has commenced. As other colonies give up beef-preserving, because the cost of beasts gives no margin for the manufacturer, the Queensland squatter will have the market pretty much to himself.

There is yet plenty of country available for cattle

runs. Where the grass is defective, salt bush often grows luxuriantly. Upon this unpromising-looking food stock will get fat in a short time. Localities like the plains of the Warrego and Barcoo, far to the westward, sustain enormous herds on this salt bush, and Mitchell grass.

Sheep pastures are found in the apparently arid wastes to the west. On the distant plains, which are useless for agriculture, wool can be grown without the squatter dreading the advance of 'free selectors.' There he will enjoy unmolested possession, perhaps, for many years. The grass may be scarce; but the salt bush will fatten the bleaters, though failing to grow length of staple. Periodical droughts and other hardships must be faced by the sheep master with courage and patience. The reward is certain in the long run. The native grasses are much admired, though fires and close feeding injure them. Kangaroos, grass-eaters, having much increased, are being now destroyed at the public expense.

The wool is far better on the rich Darling Downs, for there the squatting establishments have every convenience for the getting up of the fleece. Sheep-washing is managed with hot water, through pipes covered with holes. Great care is exercised in the sorting and preparing of the wool. By the fencing in of land a great improvement of fleeces is effected. Among these fences, some are of wire or basket work, others of post and rail, and the rest of logs forming dog-leg or chock and log fences. Worm disease troubles the sheep.

While in Great Britain the sheep are equal to the population, in Queensland they are thirty to one of the people. The climate of the colony is more suitable to the animals, and the cheapness of the land affords the opportunity of depasturing them at a profit. Horses thrive well in a region so warm and dry.

The means to be employed to secure a *run* are simple enough, and the terms are certainly very easy.

The application to the land commissioner of the squatting district must be made in writing. The applicant must, at the same time, deposit 5s. for each square mile he selects, and agree to stock at the rate of at least 100 sheep or 20 head of cattle per square mile.

He then obtains an *occupation license* for one year. This can be exchanged for a twenty-one years' lease.

QUEENSLAND.

Salt bush supports cattle and sheep.

Fine stations on Darling Downs.

Sheep proportion sixty times Great Britain.
Horses do well.

How to get a run.

Occupation licenses and leases.

QUEENSLAND.

Squatting regulations.

Rent 5s. a square mile.

AGRICULTURE.

Mr. Trollope's picture.

Colonial farmers not like many English ones.

Should he afterwards fail in having 100 sheep or 20 cattle per mile, he forfeits his lease.

No run can have less than 25 square miles, nor more than 200. The lease is transferable upon payment of a guinea fee, and having the consent of the chief commissioner. If the whole or a part of a run be resumed by the Crown, compensation is awarded after arbitration. A block of 2,560 acres of leased land may be bought by the tenant at 10s. an acre.

The annual rent for the first seven years is 5s. a square mile; for the second seven years, 10s.; and for the third, 15s. But the tenant and the Government have the right, during the seventh or fourteenth year, to demand an assessment, when the rent may be raised or lowered. But it can never be less than 7s., nor more than 15s., for the second; or less than 12s., nor more than 25s., for the third term. The fixed rental for 25 square miles is 27*l.* 10s. from the 5th to 9th year, and 35*l.* from the 10th to 14th. Runs more than five miles from permanent water can be had, on annual license, at 3s. a square mile.

Agriculture.

A sorrowful picture has been drawn by Mr. Trollope respecting the agriculture of the colony.

'The Queensland farmer,' says he, 'is almost invariably a struggling man, with small means, who grows a little Indian corn, which he barters with shopkeepers for other goods, having no market in which he can get money for it, and who hires his services to the squatters when the washing and shearing of sheep come round. Wheat cannot be grown, or at least has not been grown, so as to pay.'

Colonial farmers are not to be estimated after the British standard. They are proprietors, and not lessees. They have little capital, and think it no disgrace to work for others while their own crops are growing. They wish to make a home for their children, and deny themselves a present good for the future good of their family.

Queensland is not equal to New Zealand and Victoria for so-called English farming. One great cause of failure there in agriculture has been the want of American adaptiveness to circumstances.

As Englishmen will consume an excess of beef and

beer in India, so do they persist in growing English produce in an un-English climate. Gradually they are learning that a farm near Brisbane or Rockhampton may yield a better return from sub-tropical vegetation than that of a colder zone. Sweet potatoes—a delicious food—together with bananas, pineapples, arrowroot, oranges, limes, sorghum, cassava for tapioca, yams, ginger, tobacco, indigo, sago, cacao, coffee, cotton, and sugar give the Queensland farmer a great advantage. The State offers 1,000*l.* for a cure for rust in wheat.

But wheat will grow admirably on Darling Downs and in West Moreton. At Warwick a farmer got 800 bushels from less than 20 acres, at a cost of 98*l.*, and realised 220*l.* But 2,682 acres on the Downs produced an average of 19 bushels an acre in 1871. At Allora, February 1879, 290 acres gave 1,300 bags.

Maize does far better. In 1878 there were 53,799 acres in maize to 9,627 in wheat, 1,065 in barley, and 132 in oats. It is strange that while maize is relished in America, a prejudice against its use, except as maizena, should exist among ourselves. Many in Queensland think it better to import flour from the southern colonies, and export to them that which succeeds so well in the *banana land*. Maize ears are often a foot long.

Potatoes grow well, especially on Darling Downs, as the returns of 3,882 acres lately proved. Sweet potatoes reach an enormous size. Great quantities of tropical and sub-tropical fruit are sent to Melbourne, New Zealand, &c. Leichhardt, being once asked what would grow at Moreton Bay, replied, ‘You ought to ask what it could *not* grow.’

The small farmer has as good prospects in Queensland as elsewhere; but he must adapt his work to the climate. Arrowroot is easily raised, and is a grateful food for a hot country. Most growers have a little mill at home for use. After being washed in troughs, the roots are rasped in a mill, in running water, and revolving blades tear up the pulp. The beating continues till the starch of the arrowroot is got from the pulp, and settles at the bottom of the trough. The refuse is excellent for manure. Not a great amount is as yet exported, because the home consumption is large. An acre producing a ton and a half will realise 50*l.*

QUEENSLAND.

Queensland not so adapted to English products.

Wheat grown in S. Queensland.

Of corn crop, maize best.

Sweet potatoes.

Leichhardt's saying.

Arrowroot culture.

QUEENSLAND.

Indigo,
tobacco,
coffee, up-
land rice,
etc.

Fruits
grown.

Silk-pro-
ducing.

Acres in
produce.

Only $\frac{1}{2000}$
cultivated.

Cotton-
growing.

Bonus for
cotton.

Indigo will become a profitable produce, though requiring both warmth and moisture. Colonial tobacco has hitherto suffered in price, because being badly cured. During 1877, 42,616 lbs. tobacco and 85,000 lb. cigars were manufactured. Tapioca will pay there. Coffee succeeds admirably in some places where sheltered from the frosty west wind. Flax promises well. Arnott dye, ginger, opium, dates, vanilla, upland rice, turmeric, and even tea, will become exports of the colony. The Acclimatisation Society has done good service in the colony.

But oranges, lemons, figs, olives, pomegranates, citrons, melons, peaches, pineapples, bananas, and other fruits of warm climates, are delicious in Queensland. The vine also does well, though the summer rains are not friendly to it. A German grower one year made 2,700 gallons of wine from 7 acres. The produce of 1877 was but 87,282 gallons of wine.

Sericulture may yet make South Queensland the Lombardy of Australia. As the mulberry is so suited to the climate, the care of silkworms will one day be a common work of farmers' wives and daughters there. The *Morus multicaulis* leafs early there, though the oak-leaved and rose-leaved varieties are more advantageous. The alianthus is equally successful. The raising of silk is as interesting as it is profitable.

The Government returns for 1878 give the following acreage of produce:—Wheat, 9,617 acres; barley, 1,065; oats, 132; maize, 53,799; potatoes, 3,883; tobacco, 71; arrowroot, 124; English grasses, 6,671; vines, 528; bananas, 462; pineapples, 184; gardens and orchards, 2,477; sugar cane, 16,584; oranges, 273; cotton, 37; hay and other crops; making a total of 117,489 acres, or only one four-thousandth part of the colony under cultivation. In 1872 the wheat land was 3,661 acres.

Dr. Lang, to whom Queensland owes so much, observes: 'My efforts in connection with cotton cultivation in Australia originated, in great measure, if not exclusively, in my desire to get out to our colonies a population of the right description from Great Britain and Ireland. Cotton-cultivation, I conceived, was to be the means.'

The first legislators of the new colony in 1860 offered a bonus for the encouragement of cotton-growing. Mr.

Sloman showed how six acres could be cultivated by one man, using half a pound of seed to the acre. A free, open soil is needed, and limestone is preferred. The drills may be 5 or 6 feet apart; and the plants 3 to 5 feet. Care is required to keep down the weeds. The picking has to be done in dry weather, otherwise the bolls do not open freely. The quantity varies, according to weather and sort, from 20 to 120 lbs. a day to the picker.

QUEENSLAND.

Mode of culture.

The ginning is usually done at about a penny a pound. The Sea Island kind, the most valuable, is most easily freed from seeds. Formerly the seeds were thought useless, but are now crushed for their oil, while the residue is made into good fattening cakes for pigs. Cotton seed meal, mixed with bran, causes a cow to throw a rich cream.

Use of seeds.

The cotton is a ready money produce, like corn. A man with a family can easily manage a crop, and yet find time to attend to other things. The wife and children can keep down the weeds, and gather the fleecy pods. As much as 600 lbs. an acre may be obtained. A pressed sack of cotton weighs 500 lbs. Cotton factories are already spoken of, and large bonuses have been offered by the State to induce persons to commence.

Cotton and family work.

It was said that the labour was unsuitable to Europeans. But Sir Morton Peto, visiting the Carolina cotton fields, observed that the slave system prevented the supply from equalling the demand. President Grant once said: 'Where labour was the property of the capitalist, the white man was excluded from employment, or had but the second best chance of finding it.'

Cotton factories.

Fit for Europeans.

The Southern Queenslanders seem determined to oppose importation of Polynesian labour for cotton plantations. They declare that the white man can and does work without injury; and they point triumphantly to the fact that while, in 1871, the cotton crop was on 12,433 acres around Brisbane and Ipswich, only 136 were cultivated by the coloured men of the north. The fall of prices has arrested cotton growing of late years.

Almost all cotton grown by whites.

It is fortunate for the interests of British emigrants, that so convenient and agreeable a culture as that of cotton can be conducted by the families of the whites in Southern Queensland, when rates rise again.

QUEENSLAND.

Sugar plantations greatly extending.

Best localities.

Planters' trials.

Sugar land selecting easy.

How to do it.

Cane-growing more simple than sugar-making.

Mode of culture.

But sugar plantations are the rising industry of the colony, making it the Mauritius of Australia.

These are now spreading along the whole eastern shore of the colony, from the Logan of the south to the Endeavour of the north. Rich, scrubby flats, yielding naturally a luxuriant coarse grass, and being situated within 30 miles from the sea, are the favourite selections.

Frost is a serious evil, making the field look like dead maize. The removal from hills is, therefore, necessary ; the young shoots are covered awhile by cane leaves. Dry heat limits the yield of juice, though increasing the density of it. Draining is essential to wet lands ; and provision is taken against floods, so common in Eastern Queensland. Good drainage keeps off the sugar blight, which destroys leaf and stem.

Sugar lands can be obtained on favourable terms. A man may select from 320 to 1,280 acres, and pay in ten annual instalments of 1*s. 6d.* an acre. He is required to reside on the block for the first three years, but not longer, should he have then cultivated one-tenth of the area. Some sugar lands pay 2*s. 6d.* annually.

One, writing from the great sugar district of Port Mackay, says : 'With a capital of 1,000*l.* to 1,500*l.* a man may take up from 300 to 400 acres, grow a crop of 30 acres, erect a cattle mill to take it off, never run into debt, and have his plantation—and his money back in his pocket—at the end of three years, if sugar continues to average about 24*l.* per ton.'

It is not necessary that so large a capital be employed. The work of cane-growing can be carried on without entering upon the more extensive work of sugar manufacture. Mill-owners are ready to take the produce of a farmer, and give him one-half to two-thirds the sugar, according to the yield. The better the growth, the more the sugar. There were last year from sixty to seventy mills at work. Tooth's process is an improvement.

The planting must be according to the prevalent system of the particular district selected. The *trashing*, or pulling off the dead leaves, is the main labour. Many lay the leaves between the rows to shield the land from the sun, and yield manure. The ash from the furnace and the lees of the molasses form the best cane manure.

Of the 15,220 acres of cane in 1877, nearly 6,000

acres were in the North, 4,000 in the Maryborough district, 1,340 in the Brisbane, and 2,600 in the Logan. Of the sugar crop of 1877-8, Mackay district produced 7,643 tons; Brisbane district, 618; and Maryborough district, 2,805. The total, 13,787 tons, were off 8,902 acres, the amount ready for crushing out of 15,220 acres in cane. Mackay averaged $1\frac{3}{4}$ ton; Maryborough, $1\frac{1}{4}$; Logan, $1\frac{1}{2}$; and Brisbane, $1\frac{1}{3}$.

The average yield is greater in the North, reaching up to 5,000 gallons, or $2\frac{1}{2}$ tons per acre. As much as 30 tons have been raised on 10 acres of rich soil. Gingham cane has yielded $3\frac{1}{2}$ per acre, when of superior density. Other favourite sorts are the Bourbon, Black-Java, Ribbon, and Yellow. Many varieties are grown there. The produce of 1879 was 19,000 tons.

There were eleven distilleries last year in Queensland. In the year 1878 the rum produced was 196,000 gallons, in spite of much illicit trade unrecognised by the authorities. In 1868, the quantity was but 35,599. There were 61 sugar-crushing mills in 1878, 10 in 1868. The molasses yield for 1877 was 510,260 gallons. But while the cane is perfect in one year at Port Mackay, Cardwell, or Herbert River, it takes nearly twice as long to mature in the cooler latitude of Brisbane. The season of 1879-80 is very productive.

The Chief Inspector of Distilleries has an encouraging word to men of limited capital, saying: 'The cultivators of small patches of well-grown cane, kept clean and well looked after, have received satisfactory returns from the mill-owners.' Of cane, 40 varieties are grown.

The sorghum and the imphee, or Planter's Friend, is well adapted to the Queensland climate. The imphee is a summer crop entirely. Two crops can be raised to one of the cane. A ton of imphee yields about 90 lbs. of sugar and 60 lbs. of molasses. From 10 to 15 tons per acre can be expected. It is also an advantage that when the cane is crushed, the imphee is ready to keep the mill going.

Splendid sugar land has been found on the Johnstone, Daintree, and other rivers of the far North. This is only sold by Government in small quantities to restrain speculation and to facilitate settlement.

But while Southern Queensland is content with white

QUEENSLAND.

N. Queens-
land best
for sugar.

Average
yield.

Varieties
of cane.

Distilleries.
Rum and
sugar
produce.

Cane
growers
have a
profit.

Sorghum
and imphee.

For and
against.

QUEENSLAND.

coloured labour.

labour, the Northern part looks mainly to coloured men for work, though the supply is got with difficulty.

Some planters extol Polynesian hands as superior to all others. It is argued with much force that the swampy, rich scrubs of river flats in the tropics of Queensland are, from their sultry climate and confined air, unfit for Europeans to toil in. Mr. Trollope was pleased with the Polynesians of Port Mackay. He says: 'They who go to Queensland for three years are sent back to their islands with their hands full, in good health, and with reports of a life far better than that which Providence has given them at home.'

Moral objection.

On the other hand, missionaries speak of the returned labourer as being by no means morally improved by the change. Others condemn the herding of so large a number of men together without their wives, and dread the extension of the system as worse than negro slavery in moral effects. The kidnapping from the islands is kept under check by Government regulations, and the people are certainly well treated in the country.

Sir Charles W. Dilke, speaking of the sugar fields of the north-east, remarks: 'Coloured labour is now almost exclusively employed, with the usual effect of degrading field work in the eyes of European settlers, and of forcing on the country a form of society of the aristocratic type.' This is a too strongly expressed opinion by a traveller, not a colonist.

Southern Queensland condemns the system. The Brisbane 'Courier,' of January 24, 1873, writes thus: 'Polynesian immigration, with all its attendant wrong-doing, we hope to see speedily and entirely discontinued.' Many there exclaim with the poet—

Ill fares the land, to hastening ills a prey,
Where wealth increases, but where men decay.

Kingsley's ideal tropical state.

That was a fine dream of the noble-hearted Kingsley, when he says: 'The ideal of what a tropical white nation might be, when properly acclimatised, is, if we will then let our imagination but soberly work out the details, too dazzling to be dwelt on long without pain, beside the fearful contrast which the social state of Europe presents to it at this moment, and is likely to present for many years to come.'

But such a future Queensland hopes to unfold. Already

the agriculturist there is progressing beyond the most sanguine expectations indulged in a few years ago. It is of such white sugar growers that a recent Brisbane paper wrote : 'This class keeps but few buggies ; but nevertheless they put in a good physical appearance, and mostly have a little ready money at call.'

Who would not wish agricultural success, under such circumstances, to the hot, but not unhealthy, cotton and sugar plantations of Queensland ?

The colony is peculiarly rich in forest trees adapted for house and ship building, or for ornamental furniture, and large districts like Port Curtis give employment to woodcutters and sawyers. The species of the useful and health-giving Eucalypti are more numerous there than in any other part of Australia.

Among the conifers are the bunya-bunya, the Moreton Bay pine, the cypress pine, and the kauri pine ; the first two are often 200 feet in height. There are also the hard wooded he, she, forest, river, swamp, and fire oaks. The cedar family are well represented. The Flindersia, yellowwood, the native plum, native orange, native tamarind, native lime, cumquat, satinwood, pit-tosporum, and capivi are all close grained and beautiful woods.

The tulipwood is very handsome. The silver-tree is so called from its silver foliage. The bottle-brush, tea-tree, black butt, ironbark, apple-tree, yellow box, red mahogany, bloodwood, and turpentine are both hard and durable. The white, blue, red, grey, and spotted gums are all valuable. Stringy bark is useful for boards ; bloody bark for red gum ; mountain ash for gunstocks ; silky oak for staves ; mangrove for ship-knees ; myall for pipes ; wattle for tan bark ; coachwood for coach manufacture.

The beefwood, Queensland nut, acacia, sandalwood, ironwood, crabtree, daphnandra, ebony, and tulipwood take a high polish. The dogwood gives out an offensive odour when burning, and one of the acacias yields the odour of violets. A huge native fig throws up wall-like abutments at the root. The Moreton Bay fig drops roots to the ground from its branches. The Moreton Bay pine is the king of Queensland trees for size, use, and beauty.

Mr. Walter Hill, the Government Botanist, recently

QUEENSLAND.

White
sugar
growers.

Timber
trees.

Use and
beauty.

QUEENSLAND.

Monster tree.

saw a tree on Johnstone River, 60 miles north of Cardwell, which, at three feet from the ground, had a girth of 150 feet; and, at 55 feet up, a girth of 88 feet. He calculated that if hollow it would shelter 440 persons, or stable 37 horses, allowing 6 by 8 feet for each. It contained 60,000 cubic feet of timber.

MINING.**Mining.**

The importance of Queensland as a mining country is obvious from the fact that, upon a calculation of so much per head, it ranks next to South Australia for copper, and next to Victoria for gold, but first for tin in the colonies of the continent. This is the more remarkable, because the mineral development is so much more recent than in the others. Its mining future is most hopeful.

Gold area.

The gold of New South Wales and Victoria was known several years before being revealed to any extent in Queensland. Now, to look upon a map, the colony seems studded with foci of this treasure for nearly half its width and the whole of its length. It is not merely along the main ranges where diggings exist, but they are scattered over the area between these and the sea..

From the southern border to Cape York, and wherever the old rocks appear as ranges in the interior, gold fields may be expected.

Southern mines.

While the Talgai and Lucky Valley by the Darling Downs, and the Ennogera of Brisbane, are in the south, a nest of mines are in Burnett district. The largest is the Gympie, near the Mary River ; this was the first of the important fields of Queensland, having been opened in 1857. In 1877, the Gympie quartz averaged the high value of 2 oz. 5 dwts. per ton of stone. The gold was first cut out by knives from the roots of trees and grass. In January 1879, 9½ tons of Gympie quartz yielded 413 oz. of gold. Near the Gympie are the Kilkivan, Jimna, and Cania mines.

Gympie, 1867.

Port Curtis had a rush as early as 1857 ; but its failure tended to retard for several years the auriferous development of the country. Rockhampton, the so-called northern capital of Queensland, was established by the miners of Canoona, and is now the centre of the mines of Central Queensland. These are the Peak Downs, Ridgelands, Morinish, Rosewood, Crocodile, Calliope, Cawarral, etc.

Mines of Central Queensland.

QUEENSLAND.
Ravenswood, 1869.

But the most important auriferous display is in the north. Ravenswood, opened in 1869, is a field of 550 square miles; the township is 100 miles south of Townsville Port. The reefs have paid splendidly. Even the tailings, thrown aside as useless, have been recently determined by an assay at the School of Mines, Jermyn Street, London, to contain from 2 ounces to 18 ounces of gold, and 1 ounce to 5 ounces of silver, to the ton. The iron pyrites have been the difficulty of Ravenswood miners. Some specimens of this impracticable ore have assayed 30 ounces to the ton.

Among the other northern mines are the Palmer, Coen, Etheridge, and Hodgkinson of York Peninsula, the Cloncurry, &c., S.W. of the Gulf, the Gilbert and Normanby, S.E. of the Gulf, the Charters Towers, west of the Burdekin River, the Star, west of Townsville, and the Cape River field. The Central mines are near Rockhampton. The southern ones are at Gympie and near Warwick. The Woolgar rush is by the Flinders.

The escort returns in 1877 from Charters Towers were 87,200 oz.; Palmer River, 52,077 oz.; Gympie, 44,527 oz.; Hodgkinson, 32,004 oz.; Ravenswood, 12,962 oz. The total yield was 353,266 oz., besides what the Chinese carried home. The produce from 89,494 tons of gold quartz was 169,387 oz., or 1 oz. 17 dwt. 20 grs. per ton. At Gympie, a cake of 5,800 oz. came from 739 tons. The cost of crushing varies from 9s. to 50s. per ton, according to place. The known auriferous reefs were 1,569. The gold area is 7,000 square miles. Of 17,903 miners, 13,269 were Chinese, who worked the alluvial, while the Europeans were upon the quartz reefs.

1 oz. 17 dwt.
per ton.

Gold yield
for 1873.

Copper in 1872 realised 196,000L. Prices fell after.

Copper
mines.

The Peak Downs mine has yielded a million pounds' worth of metal. The dividends in five years were 215,250L. Mount Perry, of the Burnett district, is a more southern centre of copper-working. Kroombit is also rich in ores. Nebo, Mt. Flora, Mt. Orange, West Moreton, and Treverton Creek are hopeful places. Virgin copper and malachite are got from Cloncurry Australian mine, as well as from Rannes on the Upper Dawson. Cressbrook, 40 miles from Ipswich, Rawbelle, Edina, Boolboonda, Drummond, Harpur, Clara, and Normanby are

Copper ore
localities.

QUEENSLAND.

Peak mine lodes.

Copper prospectors.

Tin-streaming localities.

Tin yield.

Geology of the tin.

Iron ores.

hopeful localities. The copper export for 1877 was 167,337*l.* The low prices have restricted production. Keelbottom copper of Dotswood is very rich.

It is singular that in the Peak copper mine the lodes are east and west instead of north and west, with no branches or parallel lodes, and in conformity with the strata of the micaceous clay slate.

A good counsel is given by Mr. Daintree to copper prospectors. 'Distrust,' says he, 'carbonate surface ores coating hard crystalline rock, or spangles of metallic copper disseminated through it. Such may possibly be workable as copper-bearing rock, but such are not *lodes*. Trust rather "gossan" ores on the surface, associated with quartz or regular load gangue.'

The new tin exports for 1872 amounted to the sum of 109,816*l.* The export for 1877 was 133,432*l.*

Stanthorpe, rightly named, is the centre of the southern stanniferous field by the Severn River. The area is called 550 square miles, and the country is granitic. The metal is also found at the head of the Burdekin and other more northern rivers. Stanthorpe, Quart Pot Creek, 36 miles from Warwick of the Darling Downs, was the first favourite locality for stream-tin. Sugar-loaf Creek, Four Mile Creek, Kettle Swamp, Pike's Creek, Broad Sound, and Folkstone have tin workings.

In July 1872—only a few months after discovery—850 selections of tin ground had been made, having a population of 1,500. The yield during 1873 averaged about 150 tons of ore weekly. It takes more trouble to refine than the Cornish tin, and, therefore, fetches a lower rate in the market. Smelting works are established at Stanthorpe. The lodes are like Cornish ones.

The tin ore is a peroxide in red granite. When found *in situ* the mica is white and the granite is very coarse; but, ordinarily, the mica is black and the felspar is a red orthoclase. The rock is often much metamorphosed in the neighbourhood. The red rock of Ballendean is one of several known lodes. Forfeited claims of speculative companies are now being worked to greater profit by individual miners. Tin granite is of the coal age.

Iron ore is common enough, from the southern boundary up to lat. 12°. The Logan, the Burrum, the Burnett, the Styx of Broad Sound, and all coal localities, are rich in iron; but chrome iron ore will

be the earliest worked. Of a lode near Ipswich, Mr. Daintree remarks : 'This is said to be one of the largest deposits of chrome iron ore known in the world.' The same is found also in the Rockhampton district. Brown hematite abounds at Toowoomba and Bandamba Creek, red hematite at Pine Mountain of West Moreton, specular at the Gilbert, and micaceous iron ore at the Cloncurry. Carpentaria red oxide showed 65 per cent. of iron.

QUEENSLAND.
Iron.

Among the Queensland formations rich in iron are the Desert Sandstone, the igneous, cretaceous, oolitic, mesozoic, carboniferous, and Silurian. Rich ferruginous clays, probably once volcanic matter, are seen in the basaltic Darling Downs district. All sorts of iron ore are detected in the gold fields. In the Southern coal field iron is abundant, and limestone is near it. The chrome of Brisbane River is in huge boulders over a large area. A similar deposit is known northward, toward Broad Sound. Micaceous iron is very common. The Northern coal district of the Dawson River has a fine bed of ironstone resting on clay over carboniferous sandstone. A part tertiary deposit of valuable ore has been lately discovered near C. York. The Mt. Hedlow blocks realised as much as 89 per cent. in the analysis.

Mercury, in the state of cinnabar, occurs at the head of the Mary, on the Clarke, and at Kilkivan and Gympie. It is not yet worked. Antimony is got at St. John's Creek, the Burnett, and at Neardie. Manganese, with nickel and cobalt, are known near Gladstone ; and bismuth is brought down from the Cloncurry. The galena of Ravenswood, Minto, Western Creek, and the Gilbert may turn out some day valuable silver mines.

Mercury,
antimony,
bismuth,
galena.

Precious stones—as diamonds, sapphires, etc.—are gathered while streaming for tin ; and are seen also in the Burnett and Rockhampton districts. Agate Creek is near the Gilbert. Rich opals *in situ* are to be dug out of the sandstone and limestone of the western interior ; but chiefly near the Barcoo, at Listowell, where the rock is changed by contact with basalt. Opal was first obtained from the shale at the head of the Bulla Creek, Barcoo River, in 1870.

Precious stones.

Queensland has immense stores of the best coal waiting for the miner. North beds are older than the south.

Barcoo opals.

The Aberdare mine is worked to a profit. It is five miles from Ipswich, with a seam of 5 ft. An analysis

Coal mines
of Queens-
land.

QUEENSLAND. gives carbon 59·69 ; hydrogen, 4·29 ; oxygen and nitrogen, 9·64 ; sulphur, 0·22 ; ash, 24·25 ; water, 1·91.

The Tivoli mine, near the Aberdare, has 79·01 of carbon, 6·56 of oxygen and nitrogen, 5·19 of hydrogen, and only 7·73 of ash. Its seam is 3 ft. The Allora of Darling Downs has 69·31 of carbon, 6·08 of hydrogen, 11·51 of oxygen and nitrogen, 0·31 of sulphur, 8·87 of ash, and 3·92 of water. Cannel is on the McIntyre.

The Flagstone Creek mine, near Toowoomba of the Downs, is also worked. The Bingera mine of Burnett and the cannel coal of Gatton promise well. With readiness of access much will be soon available for export. The Mackenzie and Bowen have fine beds.

Coal in the future. Coal is seen southward, westward, eastward, and northward. York Peninsula contains it by the Endeavour river. The people are too busy in Queensland with other and more pressing demands upon their attention, to pay present heed to their iron and coal. South Queensland coke is superior to that of England or Sydney. With population, the coal trade increases.

Mining regulations. The mining regulations are wise and liberal. Gold prospectors are encouraged by the promise of having an extended claim given them on any new field.

The Gold Commission of the district settles questions of disputes about claims. Each miner has 30 ft. frontage to the bed of a stream ; but, for dry diggings, one person has 40 ft. by 40 ft. ; two men have 40 by 80 ; three, 50 by 80 ; and four, 60 by 80. In wet alluvial claims two have 50 ft. by 100 ft. ; three, 75 by 80 ; and four, 100 by 100. Chinese pay much more than Europeans.

An ordinary quartz claim is 40 ft. on the line of reef ; but 600 ft. may be had, and 750 in width.

Gold leases. Leases may be held for eight acres of alluvial ground, 500 yards of river bed, or 400 yards by 100 on a reef. The term is for five years. The annual rent is 5*l.* an acre, or 100 yards of river bed, or 100 of reef. But leases of 25 acres at 1*l.* an acre rent, are to be had for 21 years. A business license is 4*l.* a year. A miner's right, which all workers must possess, costs 10*s.* for the year. Rights are now to be had for ten years.

The *Mineral Act* of 1872 applies to the land worked for any other mineral but gold.

Leases for other minerals than gold. Land may be bought in blocks of from 20 to 320 acres.

A deposit of 5s. an acre is made, and the balance of 25s. an acre has to be paid within a year. A frontage of not more than five chains to a creek is allowed upon a 20 acre purchase.

Leases and licenses of mineral lands are granted. The annual rental is 5s. an acre. The claim may be for 20 to 320 acres, and the term 99 years. Such leases are transferable upon payment of a fee. Miners may rent 40 acres for farming on Gold Fields at a shilling per acre.

Licenses are granted annually for working mineral Crown land. Each miner so employed pays 10s. a year. Each license claim is 3 chains square.

Trade and Manufactures.

TRADE.

When known as Moreton Bay, the trade was very limited, and almost confined to wool. The first steamer on the Bay was the 'James Watt,' in 1837. But in 1865 the trade of the colony was as great as of the whole American colonies after a hundred years' existence. The inward tonnage for 1878 was 541,850.

The exports of Queensland for the year 1878 were 3,190,419l., and the imports were 3,436,077l. The following may be quoted to show the character of the trade :—

Increase
of trade.Exports
and im-
ports.

Countries	Imports from	Exports to
United Kingdom . . .	£ 1,164,377	£ 1,201,528
New South Wales . . .	1,950,084	2,624,082
Victoria . . .	118,177	10,530
South Australia . . .	248,327	16,974
Tasmania . . .	25,172	439
New Zealand . . .	13,692	4,711
Germany . . .	4,684	—
China . . .	101,618	212,852
New Caledonia . . .	—	6,743
United States . . .	19,804	234
Hong Kong . . .	16,419	10,284
Total seawards . . .	3,674,180	4,103,468
Borderwise . . .	36,762	—
Live stock (overland) . . .	357,740	257,807
Total . . .	4,068,682	4,361,275

QUEENSLAND. Among the imports we find 580,117*l.* for drapery, etc. ; 343,839*l.* for flour; 162,311*l.* for spirits; 131,079*l.* for tea; 108,389*l.* for boots and shoes; 105,671*l.* for beer; 96,149*l.* for hardware; 166,804*l.* for iron; 15,809*l.* for sugar; 16,300*l.* for apparel.

Import value. In the exports gold occupies the first place, realising 1,611,103*l.*; wool then stood at 1,499,682*l.*; copper, 167,377*l.*; tallow, 73,006*l.*; cotton, 6,940*l.*; preserved meats, 89,652*l.*; hides, 66,118*l.*; sugar, 180,668*l.*; timber, 35,629*l.*; tin, 183,432*l.* The imports for 1877 were 20*l.* 17*s.* 1*d.* per head; the exports were 22*l.* 7*s.* 1*d.*; those for England being not a fourth part of that rate.

Export value. Trade is opening up with the Asiatic and South Sea Islands. The pearl fishery in 1878 brought 112,320*l.*

Pearl fishery. The *Tariff*, in 1879, comprehended the following :—
Tariff. *Per gallon* : brandy, 12*s.*; spirits, 10*s.*; methylated spirits, 5*s.*; wine, over 25 per cent. 10*s.*; not over, 6*s.*; beer in wood, 9*d.*; in 6 qts. or 12 pts., 1*s.*; oils, 6*d.*; turpentine, 6*d.* *Per lb.* : tobacco and snuff, 2*s.* 6*d.*; cigars, 5*s.*; opium, 20*s.*; tea and roasted coffee, 6*d.*; raw coffee, chicory, cocoa, chocolate and butter, 4*d.*; cornflour, rice, arrowroot, jams, candles, sago, starch, powder, and twine, 1*d.*; biscuits, butter, candles, confectionery, dried fruits, ginger, spices, pepper, mustard, glue, honey, cheese, bacon, hams, hops, and leather, 2*d.* *Per cwt.* : sugar, refined, 6*s.* 8*d.*; raw, 5*s.*; molasses, 3*s.* 4*d.*; soap, salt, and dried fish, 5*s.*; sarsaparilla, 4*s.* and 10*s.*; acids, cordage, and saltpetre, 4*s.*; paints, shot, galvanised iron, iron wire, nails, iron castings, and lead (white and red), 2*s.* *Per ton* : oatmeal, maizemeal, and salt, 40*s.*; potatoes, hay, and onions, 10*s.*; coals, 1*s.* 6*d.* *Per doz. lbs.* : bottled fruits and mustard, castor and salad oils, pickles, sauces, jams, 1*s.*; preserved meat and fish, 2*s.* *Per bushel* : wheat, barley, maize, oats, and malt, 6*d.*; bran, 2*d.* *Per barrel* : cement, 2*s.* Iron tanks, 8*s.*; doors and sashes, 2*s.* 6*d.* The excise on spirits is a duty of two-thirds.

All other articles pay an *ad valorem* duty of 5 per cent., except the following :—Unmanufactured metals, anchors, machinery, printed books and newspapers, live animals, manure, seeds, flour, trees, specimens of natural history, passengers' baggage, and naval and military stores. There is now no gold duty. Stamp duties are levied. There has been a decrease of *ad valorem*

duties; in October 1874, the rate was reduced from 10 QUEENSLAND.
to 5 per cent.

The six banks, Dec. 31, 1878, had assets 5,799,328*l.*, Banks.
and liabilities 4,207,684*l.* The Savings Bank in January
1878, had 702,312*l.*, in 14,383 deposits.

The postal work is not a trifling one over so enormous Post
telegraph.
an area as nearly a dozen times that of England. One
telegraph line, from Brisbane to Normanton of the Gulf
of Carpentaria, is 1,425 miles long. In 1879 there were
nearly 6,000 miles of line.

The railways, though constructed with great economy, Railways.
are costly enough in the hilly districts, where the chief
population reside. Nearly 500 miles are open. The one
from Ipswich to Dalby is 130 miles long; and another
from Brisbane to Roma is 330. From Rockhampton to
Comet Junction is 120; and Gowrie to Warwick, 58. Over
600 miles more are contemplated. All are narrow gauge.

MANUFACTURES are being now fostered by State bonuses. Manufactures.
The first to erect a cotton factory costing 3,000*l.* is to
have a bonus of 1,500*l.*; while 1,000*l.* is given for the
founder of a woollen manufactory. A bonus of 30*l.* a
ton is offered for the manufacture of the first 100 tons of
iron. One woollen company is a great success.

But boiling-down and meat-curing establishments,
tanneries, sugar mills, arrowroot manufactories, agricultural
implement works, etc., mark the progress in useful industries, for the encouragement of which land
is readily granted by the Legislature. Woods are being
utilised; and no colony has finer timber. The *Sida*, or
Queensland hemp, at present a noxious weed, promises
to be a valuable manufactured export. A good fibre
plant, the *Sesbania*, abounds in the Western Interior.
At the Paris Exhibition these fibres were admired.

The colony, however, is too busy raising raw produce Raw pro-
duce at
present.
to have much time and capital to spare for manufactures.

Land Laws and Immigration.

LAND
LAWS.

Land
offers.

Land regulations form the most important subject to
intending emigrants. Queensland having nearly seven
times the area of either Victoria or New Zealand, with
so much less population than these, can offer the most
favourable land terms of all the colonies.

QUEENSLAND.

Little sold
of old.

Pre-emp-
tion.

Squatting
mania.

Free selec-
tion
adopted.

Female
land.

Liberal
Land Act
of 1868.

Three
classes of
land.

Payment
in 10 years.

7,680 acres
for 192*l.*

Plenty of
good land
to be had.

From the date of the first settlement, in 1823, up to 1853 very little land was sold, or even leased. In the few straggling towns, allotments were to be had; but country blocks were rarely offered for sale by the Sydney Government. Pastoral lords of the wastes occupied the Darling Downs, and but little more.

The law of 1846 gave squatters a pre-emption of 640 acres upon every 16,000 leased from the Crown. When, after the proclamation of Queensland in 1859, a mania for runs was begotten, immense acreages were taken up by speculators, on a sort of *rule of thumb* measure, with a view of selling their right of pasturage to moneyed new comers. The bursting of this bubble involved the ruin of many, caught by the *promoters*, but led to more honest and satisfactory settlement upon the land.

The right of 'free selection,' introduced in 1860 by New South Wales, became the practice in the newer colony. Between free selectors and squatters no amicable feeling has existed. It was a liberal act, however, to allow women the right of selecting land.

The Queensland Parliament advanced in the freedom of their land regulations. The 1866 Leasing Act was supplanted by the Land Act of 1868, of which the following were the chief features:—

A selection of agricultural land could be bought for 15*s.* an acre; first-class pastoral at 10*s.*; second-class pastoral at 5*s.* The payment was distributed over ten years, at 1*s. 6d.*, 1*s.*, and 6*d.* per acre respectively annually. The agricultural land must be in blocks of from 40 to 640 acres; the first-class pastoral from 80 to 2,560; the second-class pastoral from 80 to 7,680.

Thus a farm of 640 acres involved a yearly rental of 48*l.* for ten years, when the land became a freehold. In like manner, a station of 2,560 acres of first-class pastoral land could be bought in ten payments of 128*l.* each; and 7,680 acres of a more moderate character at 192*l.*

Such lands were to be situated in the settled districts around the coast; above the half of 50,000,000 acres of this best part of the colony are still open for selection. By application at a Government land agency, particulars as to available blocks can be procured. In 1878, there were 2,772,014 acres freehold, and 2,601,946 leasehold. Of 105,449 in cultivation, 71,020 were freehold.

Certain conditions have to be fulfilled before the deeds are granted by the Crown. There must be residence by person or by bailiff. Permission is given to pay the balance of purchase at the end of three years, if there have been residence for two years, and the fencing of the ground or the expenditure of 10s. an acre in improvements. The sanction of the Land Office is required for any transfer of the lease. During the term of the ten years' lease, miners are permitted to dig for and remove metals on the land.

QUEENSLAND.
**Conditional
purchase-
conditions
and rights.**

The conditional purchaser of pastoral land must likewise prove that he has improved the property during the three years, at the rate of 10*s.* an acre for first-class land, and 5*s.* for the second; or that he has put a substantial fence around the whole of his selection. Such selectors, however, cannot run more than twenty head of cattle or fifty sheep for every hundred acres while the land is unfenced. This is necessary for the protection of the squatter. By the law, one-half of a run in the settled districts is liable to be resumed; and conditional purchasers have the privilege, being provided with a license for the purpose, of running stock over that half area.

Sugar and coffee leases are granted on very easy terms. The block of agricultural class land may be from 320 to 1,280 acres, within ten miles from the coast or a navigable river. The purchase will be at the rate previously mentioned—1*s.* 6*d.* per acre as an annual rent for ten years. If, however, one-tenth of the land be in sugar or coffee cultivation within three years, the lessee is relieved from the necessity of residence. On the wonderful new sugar lands in York Peninsula, no one can have more than 640 acres, as the Government seeks to promote cultivation rather than speculation. Rent 2*s.* 6*d.* an acre.

Sugar and coffee leases.

In ordinary Government land sales by auction, the upset price of town lots is 8*l.* per acre; suburban, 15*s.* and 20*s.*; agricultural, 15*s.*; first-class pastoral, 10*s.*; second-class, 5*s.* One-fifth of the purchase-money is demanded at the sale, and the balance within a month.

Sales of land.

The *Homestead Areas Act* of 1872 is the great boon to immigrants. Mr. Daintree's official work thus describes it:—

Homestead areas a great boon.

'Proclaimed homestead areas are open to selection. The limit of the block is 120 acres of agricultural land, or 320 of pastoral and agricultural together.

QUEENSLAND.Home-
steads.

'If the selection be but 80 acres of agricultural, or 160 of pastoral, the annual rental is 9d. an acre for the first, and 6d. for the second, during the term of *five* years. But for all land above those respective areas the rent is 1s. 6d. per acre for agricultural, and 9d. for pastoral, for *ten* years. The additional acreage selected must bear the proportion of one acre of agricultural to two acres of pastoral in the same block.'

'After continuous residence for five years upon a selection not exceeding 80 acres agricultural, or 160 pastoral, and having enclosed the same with a substantial fence, or having cultivated one-tenth of the land, the lessee may obtain a Crown grant.'

The 80 acres of land, in fact, cost altogether but 15*l.*; while the 160 acre farm costs only 20*l.* for the freehold.

If the lessee die before completing his purchase, his widow or heir will enjoy the rights. Such a farm is indeed a settler's castle, since the law affirms that 'homestead areas are in no case liable to the satisfaction of any debt incurred before the issue of the Crown grant.' Should any pecuniary trouble come, the family retains the home.

**Land Act
1876.**

The Land Act of 1876 allows 80 acres within the Homestead area, or 160 without it, at five annual payments of sixpence an acre only, if there be no competition for the lot; the 80 acres may cost only 10*l.* But each acre must be substantially improved 10*s.* by the lessee. Above 30,000,000 acres were then thrown open for selection in the settled districts. This amount will be increased as squatters' leases fall in.

The *Pastoral Leases Act* of 1869 concerns squatters.

The applicant for a run obtains an occupation license for a year, to enable him to stock with not less than one-fourth the limit assumed per square mile. Runs are from 25 to 100 square miles each. If competed for, the upset is 5*s.* rent per square mile.

**Rental of a
run.**

At the expiration of the occupation license a lease is obtained for 21 years. The rental for the year's license is 5*s.* per square mile. That for the lease is 5*s.* for the first seven years; 10*s.* for the second seven; and 15*s.* for the third. But an appraisement of the rent may be made during the seventh or fourteenth year, at the option of the Government or the lessee. But in no case can the rent be less than 7*s.* nor more than 15*s.* during

160 acres
for 20*l.*Not liable
for debts.

the second term of seven years ; neither can it be less than 12*s.* nor more than 25*s.* for the remaining seven.

All runs are supposed to carry 100 sheep or 20 head of cattle per square mile. The stock must be kept up to this average during the lease, and one-fourth that rate during a license. Runs may be subdivided or consolidated, according to Government regulations.

Unwatered runs, or those five miles from permanent water, are had on annual licenses, at only 3*s.* per sq. m.

Leases are transferable, with the sanction of the authorities. Lessees are allowed to purchase, without competition, a block of 2,560 acres of their land, at 10*s.* an acre. If part or the whole of a run be resumed by the State, adequate compensation for improvements is awarded, according to arbitration.

The *Mineral Lands Act* of 1872 provides for the working of any mineral but gold. The selections are from 20 to 320 acres, and the payment is 30*s.* per acre : 5*s.* must be paid down, and the balance within a year. No grant is given unless 1*l.* per acre has been expended within two years.

Leases of mineral lands, from 20 to 320 acres, may extend to 99 years, at a rental of 5*s.* an acre. Mineral licenses involve the annual payment of 10*s.* for each person employed upon the land. Licenses are transferred, with the sanction of Government and the payment of a fee. A special license, for not more than 15 years, can be obtained by the lessee of mineral lands, for the cutting and use of water races and reservoirs on Crown lands. In that year were 967 selections for tin, 958 copper, 47 silverlead, 38 cinnabar, 20 antimony, 32 coal, 24 opal, and 4 iron.

Leases for auriferous lands are granted for five years, with 8 acres of alluvial ground, 500 yards of a river bed, or 400 yards by 100 on a line of reef. The rent is 5*l.* an acre ; 5*l.* per 100 yards of river bed ; and 5*l.* per 100 yards of a quartz reef. Special leases of not more than 20 acres are granted at an annual rental, or at a certain royalty upon the gold obtained from the land.

IMMIGRATION has engaged the serious attention of the Queensland Legislature.

In 1861, 402 immigrants arrived there ; in 1862, 5,559 ; in 1863, 9,039 ; in 1864, 4,040 ; in 1865, 9,494 ; in 1866, 7,385. A falling off appeared after the wild speculation of

QUEENSLAND.

Pastoral regulations.

Unwatered runs.

Working other minerals than gold.

Mineral leases.

Leases of auriferous lands.

Immigration.

Number of immigrants.

QUEENSLAND.

previous years. In 1867, 1,075 arrived; in 1868, 453; in 1869, 1,909; in 1877, 6,212, 2,569 being females. As to nationality, 1,965 were English, 482 Scotch, 2,002 Irish, and 1,599 Germans. In 1878 there were 5,139 males, 3,392 females; but in 1879, only 927 and 895.

Land order warrants.

Those who pay their own passage thither have a land order warrant, afterwards exchanged, with a year's residence in the colony, for a 20*l.* transferable land order for an adult, and a 10*l.* order for a child under 12 years.

Assisted passages.

Assisted passages are granted to labourers and mechanics, upon their pre-payment of the following amounts:—

	Between 1 and 12	Between 12 and 40	Above 40
Male .	£ 2	£ 4	£ 6
Female .	1	2	6

Voyage.

The voyage is safe, if long. The vessels are well found, with good medical attendance free of cost. Single women are under a matron. A library is on board.

The colonists can send for parties, subject to the approval of the Agent-General, after previous payment of 6*l.* for an adult, and 3*l.* for a child. The land order is given to the party who pays the whole of the passage, whether the employer or the employed.

Free passages.

Free passages were granted to female servants, single agricultural labourers, and to married couples, farm labourers, with not more than two children under 12 years; also, to daughters of assisted passengers.

Remittance passages.

Remittance passengers have had part of the passage paid by friends in the colony, and agree to pay the balance, as below:—

Age	Males		Females	
	Cash deposit	Within a year after arrival	Cash deposit	Within a year after arrival
	£	£	£	£
1 to 12 years	2	6	1	7
12 " 40 "	4	12	2	14
Over 40 "	6	10	6	10

Further particulars obtained at the office of the Agent-General, 32 Charing Cross, London.

As to Wages, Pugh's 'Queensland Almanac' for 1880 gives the following for the rates the previous year:—

Tailors, 10s. per diem; masons, 9s.; plasterers, 10s.; bricklayers, 11s.; carpenters, 8s. to 11s.; painters, 10s.; blacksmiths, 11s.; wheelwrights, 10s., without rations. Farm labourers, ploughmen, reapers, mowers, and threshers, 35*l.* to 40*l.* per annum, with board and lodging; shepherds, 40*l.* to 60*l.*; stock keepers, 45*l.* to 60*l.*; hut keepers, 30*l.* to 40*l.*; generally useful men on stations, 35*l.* to 60*l.*; sheep washers, 5s. to 7s. per diem; shearers, 17s. 6d. to 25s. per 100 sheep sheared, with rations; married couples without family, 40*l.* to 60*l.*; married couples with family, 45*l.* to 50*l.*; men cooks for hotels, 50*l.* to 60*l.*; grooms, 45*l.* to 50*l.*; gardeners, 45*l.* to 60*l.*; female cooks, 45*l.* to 50*l.*; laundresses, 30*l.* to 50*l.*; general servants, 26*l.* to 40*l.*; housemaids, 20*l.* to 26*l.*; nursemaids, 18*l.* to 25*l.*; farmhouse servants, 26*l.* to 35*l.*; dairywomen, 26*l.* to 35*l.*, with rations. Quarrymen, 8s. to 10s. per diem; general labourers, 5s. to 7s. per diem, without rations; seamen, 4*l.* to 6*l.* per month, with rations.

Hints to Emigrants proceeding to Queensland.

HINTS.

There are fewer luxuries and refinements in this colony, but there is elbow room for a man willing to work hard and endure hardships a while. By roughing it for a few years, a prudent colonist may calculate upon that success which will lighten the cares of advancing age.

Queensland is not the place for all classes of labour. For some time to come, absorbing attention must be directed to raw produce and not elaborate manufactures. Rough hands and not delicate fingers will find employment. Utilities and not elegancies will be in demand. But while labour is honourable, no one need fear being caught at any honest toil there. Crawlers are not wanted, and will soon discover that they are in the way.

No colony presents a finer opening for co-operative employment. That which certain religious communities have done so well in America, could be advantageously attempted by others in Queensland. A company of

QUEENSLAND.

Agent-general.

Wages list.

Not for all trades.

Co-operative parties.

QUEENSLAND.

workers, knowing one another, and ready to sacrifice some *self* in the undertaking, could take up a fine block of agricultural or pastoral land, or even lease a mining piece of ground, and by patient perseverance, with the exercise of common sense and good feeling, they might attain to a very respectable position.

Enormous as the area is, the settled parts for farmers and miners are accessible from one of the many ports now reached by coasting steamers. A good opening exists for those who will aid in promoting inland communication, as the people are essentially migratory.

The climate may not suit some constitutions, although there are lowlands and highlands from which to select a residence, and a territory a thousand miles long to camp in. Ague and intermittent fever, those common foes of the American prairies, are sometimes found in parts of Queensland, and must be met with doses of quinine. The new comer will be, perhaps, troubled awhile by flies and mosquitoes; though the latter, says Mr. Trollope, are nothing so virulent as the American ones. Diarrhoea in the summer need not be helped by imprudent drinking, but relieved by careful diet.

The man who fears to make a home in a distant land, because of the endurance of evils he did not experience in his own country, had better not venture from his quiet village, where he will suffer some evils not known in the colony, without tasting the blessings there in store for the courageous.

Queensland has land for the landless, and on easy terms. At present it is far below other colonies in agriculture, growing a small proportion of the wheat per head which South Australia grows. But, then, as people are crowding in, the corn farmer has a good chance where there are heavy importations of flour.

It is fortunate that the diggings, now drawing off so much population, have generally decent land in their neighbourhood, with a capital market for the cultivator. While Chinese make fortunes raising cabbages, English spades ought to do well. A family of boys and girls upon a farm, not too ambitiously large, cannot fail to build up a comfortable future. Many persons hamper themselves by undertaking too much for the strength

Communication.

Climatic difficulties.

Renewal of enterprise.

Farming openings.

Small farms.

of their pocket at first. A few good acres well tilled give less care and more relative profit than an unmanageable farm. As a mining community is a very uncertain one to rely upon for any great length of time, a selection easily worked and easily relinquished, if necessary, is worth consideration.

But, for permanency of farming, a locality had better be sought among the hills for grain, or lower for cotton or sugar. A brilliant future is certainly before this colony for tropical and semi-tropical produce. The man of small means should be content to increase his capital as he goes carefully forward, and the real capitalist ought to watch and wait a little before venturing far.

A sugar plantation, or a well-managed stock farm to provide squatters with improved breeds, can hardly fail to return good interest for investment and personal oversight. The profits of cane-growing, especially in Northern Queensland, are likely to draw continued attention. Recent explorations show that the seaboard north of Cardwell, up to Endeavour River, has splendid spots for this cultivation.

While sawyers get from 5*l.* to 10*l.* per 1,000 ft. for native timber, the forest as well as the field has a voice for labour and capital.

While Victoria, New South Wales, Tasmania, and New Zealand are being practically closed against the easy system of squatting, by reason of the demand for farms in their more limited areas, a growing population so enhancing the rentals of Crown lands, Queensland, by its vast territory, can still hold out great attractions to the immigrant seeking pastures; though the fleeces are not so heavy there as in more temperate climes.

The large capitalist can invest his tens or hundreds of thousands in the purchase or formation of stations, and may calculate upon satisfactory returns if his business arrangements are prudently conducted.

It is absurd to quote rates of interest on such a speculation. Much depends upon first cost, selection of run, character of season, value of labour, ruling selling prices, and distance from market and dépôt of supplies. The striking of an average for a certain number of years is the only consistent mode of calculation. It is sufficient to say that, while the richest men of Queensland are

Where to settle.

Sugar and stock breeding.

Forest openings.

Best openings for squatting.

QUEENSLAND.

Imprudent investments.

squatters, most of them have endured great vicissitudes, and a large proportion were originally men of no capital.

The impression that sheep and cattle in Queensland were a certain fortune to all investors has occasioned much disappointment and misery. Fathers in Great Britain sent out inexperienced and often improvident sons there, who, purchasing stations at absurd rates, and managing them recklessly and ignorantly, soon got into the hands of the banks, and lost their all.

To the man of moderate capital, content to plod along with economy and self-denial for a few years, always reserving something in hand for a sudden emergency or to tide over a bad season or two, and who is determined to look after his own affairs, a future of substantial wealth may be pretty safely promised. But he must be prepared to forego some pleasures and endure some trials. Still, bush enjoyments are neither few nor slight, in spite of solitude; but better with the companionship of a wife, loyally helping a man to make a bright future for a family.

Bush pleasures.

Station hands.

On a station, shearers, shepherds, etc., have few claims upon their wages, which are high. Their weekly rations are from 10 to 14 lbs. of meat, 10 of flour, 2 of sugar, and $\frac{1}{2}$ of tea: few working men in England live so well. A few years' savings may purchase and stock a farm.

Mining prospects.

Mining matters have gone a-head so marvellously in the colony, that it is no wonder the intending emigrant has an eye to them. The sanguine expect to equal South Australia in copper, Cornwall in tin, and Victoria in gold. Without doubt a good percentage can be realised in the mines by more opportunities than ordinary town life presents. The time has come for the known but undeveloped coal mines to be wrought by imported capital. Labour is well required in the gold-fields; ordinary wages running from 40s. to 60s. per week.

Business openings.

Commerce has hardly got under weigh yet. Sydney men have hitherto conducted the Brisbane trade. Yet new comers with modern ideas of business may find a corner for themselves. The colony has now got such a start that all who commence trading there, and are content to wait, can scarcely fail to secure a good stand.

Manufactures will surely come with increased population, though their day is but just dawning. At present

all available cash and energy are directed to the production of raw material.

The pearl fisheries offer a splendid opening for commercial speculators. One schooner northward netted 8,000l. in a six months' trip. Australian blacks and South Sea Islanders are employed as divers. About one hundred vessels are now engaged in the industry. Beche-de-mer is another paying product of the same warm seas off the north and north-east coasts of Queensland.

Working men must be prepared not to keep to their own craft always, but turn a hand to anything offering.

No one need fear the voyage. The mortality on board the Queensland emigrant ships is but 1·14 ; being much lower than the death-rate on land in England.

A Brisbane settler, of much colonial experience, wrote an address to intending emigrants for Queensland. In that he speaks of the status of a working man thus :—

'Your master,' says he, 'may be an intelligent, cultivated man, but you notice with surprise that he does not expect any bowing and scraping. He makes no descent to meet you, and you make no ascent to meet him. You are accosted and treated like a man, not as a chattel.' He adds : 'One last word. Every one of you, man, woman, and child, sign the teetotal pledge before you start from your native village. This simple act, faithfully kept to, will remove many difficulties out of your way, and save you from a thousand snares and pitfalls.'

The recent discovery of rich soil and good grasses, with some considerable streams, in Western Queensland, will greatly aid in the development of the colony. The outlet of this distant district, so promising in wool, copper, and gold, will be by the new Gulf port, near Point Parker. Though generally dry and warm, the climate is remarkably healthy, for the air is pure and not depressing. The new refrigerating process will be a great boon to meat-exporting Queensland.

QUEENSLAND.

Counsel to
the work-
ing man.

WESTERN AUSTRALIA.

Discovery and History.

WESTERN AUSTRALIA.

**Early
Maps.**

**Dutch dis-
coverers.**

**Black
swans.**

**Nuyt's
Land,
1627.**

**Dampier in
the north-
west, 1688.**

It is highly probable that the north and north-east parts were known to Europeans not very long after the discovery of the Cape of Good Hope passage to India. It was the policy of navigators to keep their discoveries secret, from jealousy of other nations. Maps nearly 300 years ago indicate 'South Java,' 'Southern Land,' or in other terms, to express what we call North Australia.

The Dutch, undoubtedly, surveyed the coast west of the Gulf of Carpentaria. De Witt's Land, to the north, received its name from the captain of the Vianen, in 1628. Tasman, the discoverer of New Zealand and Tasmania, visited the north coast of the continent more than once.

The south-western district was discovered by the Dutch between 1616 and 1630. Dirk Hartog left his mark there in 1616. Edel, three years after, followed down Hartog's Shark's Bay country. Houtman suffered shipwreck, in 1619, on a desolate island off Shark's Bay.

The Cape Leeuwin, or *Lioness*, was first seen by the captain of a vessel so called, in 1622. The river Swan was named after the black swans, which struck the curiosity of the Dutch sailors in 1697. The captain of the vessel then was Captain Vlaming.

A thousand miles of the coast east of Cape Leeuwin was followed down by the Dutch 'Gulde Zeepaard,' or *Good Shepherd*, in 1627. This received the appellation of Nuyt's Land, from a distinguished passenger on board going out to Japan. The bold, perpendicular cliff gave no opportunity of landing.

The English added their quota to the discovery. Dampier, the buccaneer, gave his name to land and islands on the north-west coast. He remained for two

months in that sterile country, and was annoyed and surprised at the indisposition of the natives to do negro work. He returned in 1696, eight years after his first visit.

Captain Vancouver was the English discoverer of King George's Sound, in 1791. It is said of his seamen, that their guns and aim were too bad to hit a black swan. He was followed the next year by the French Admiral Bruni d'Entrecasteaux, who surveyed the south shore of Van Diemen's Land.

In 1802, Captain Baudin, who professed to have discovered Flinder's Land of South Australia, made the first accurate survey of Swan river, and gave names to places after his two ships, *Geographe* and *Naturaliste*. Going further north, he, in like manner, honoured Voltaire, and other countrymen of reputation. The Frenchman was followed by his southern rival, Flinders, who named Port Malcolm and other parts of the south coast.

To Captain King, between 1820-4, belongs the credit of the best surveys of the northern coast. Prince Regent river, Admiralty Gulf, and Mounts Waterloo and Trafalgar were portions of his exploration. Captain Grey, subsequently Governor of South Australia, New Zealand, etc., came upon some fine country, in 1837, about Glenelg river of the north shore. He subsequently, after shipwreck near Shark's Bay, made an overland journey to Perth, crossing the Murchison and other streams, but experiencing the usual Australian difficulty of want of water.

Further surveys of the northern coast were made by Captains Wickham and Stokes, of H.M.S. *Beagle*, between 1837 and 1843.

Land explorations were conducted by Captain Stirling, in 1827; he became the first Governor at Swan river. Captain Bannister first crossed from Swan river to King George's Sound, in 1831. Mr. Eyre reached the Sound, in 1841, by an overland journey from Port Lincoln in South Australia. He suffered much from thirst.

During that weary march of 1,500 miles he met with no surface water, and depended for his supply upon wells he sank in the sea sand, at long intervals. His description of that heartless coast has been since confirmed by others, especially by Mr. Giles in 1875.

WESTERN
AUSTRALIA.

Vancouver,
1791.

French dis-
covery, 1792
and 1802.

Flinders,
1802.

King,
1820-4.

Grey, 1837.

H.M.S.
Beagle.

Stirling,
1827.

Eyre,
overland,
1841.

**WESTERN
AUSTRALIA.**Roe's ex-
plorations.Salt lakes
and
sterility.Austin's
sufferings.Gregory in
the north.Gregory
and
Mueller.Pearl
fishery.

Good land.

HISTORY.First settle-
ment, 1825.Private
colony,
1829.Mr. Peel
the
founder.

Mr. Surgeon Roe from 1836 to 1848 made excursions northward and eastward from the settlement, but came only to small patches of good land in the midst of dreadful deserts. He often failed to obtain water in the bed of so-called rivers. The salt lakes of the granite regions, north-east of the Sound, were seen in the midst of a sterile country. The Forrests explored E. from 1870-8.

Mr. Austin penetrated far into the interior, east of the Murchison, encountering fearful heat and droughts on the sandstone plateau, and on the granitic wastes. The two brothers, Mr. A. C. and Mr. F. Gregory, did their best to reveal a better land, though without success. Mr. F. Gregory was more fortunate, when he went in 1858 across the country south of the Dampier Archipelago, discovering the Fortescue and De Grey rivers.

In a later expedition of Mr. A. C. Gregory and Dr. Von Mueller, Sturt Creek was seen to lose itself in a salt lake of the desert in the north-east.

Land south of Nichol Bay was afterwards shown to be available for pasturage, and the coast for pearl fishery. Col. Warburton recently crossed the desert from central South Australia to the North-West Coast. Forrest has since revealed vast tracts of rich soil in the north-east.

The *history* of the Colony is not an eventful one, except for difficulties.

As the attempt at French colonisation in New Zealand was prevented by the energy of the English, so was it in Western Australia. The report of a contemplated settlement on that coast induced the Governor of New South Wales, in 1825, to forward a small party of convicts to King George's Sound.

But a private colony was established on the banks of the Swan River four years after. Capt. Freemantle had, in 1829, taken possession of the country in the name of the King of England, as Vancouver had that of the Sound.

It was resolved to establish a Colony there. Large grants of land were made to a Mr. Peel and others, on the condition of forwarding thither a certain number of free emigrants. Capt. Stirling, appointed Governor, was, like the rest, dependent for an income upon large grants. If able to induce men of some capital to come out and purchase land, the original proprietors would do well.

Many entered sanguinely into the speculation, and 1,300 were landed by the end of 1829. So long as weather was fair, and cash lasted, the immigrants enjoyed life in their tents. But when the stormy rains came, distress appeared. Colonial vessels from Hobart Town and Sydney sold then flour at 100*l.* a ton to the nearly starved out inhabitants.

To add to their misfortunes, the land proved not to be the paradise held forth. The soil was sandy, and the grass was poor. Those who had means to pay their passage fled to Van Diemen's Land and other settlements. The rest endured many hardships for a number of years. The private Colony, of course, became by the failure of the original company a Crown one.

At length, in 1848, the settlers resolved to forsake the country unless the British Government came to the rescue. As the eastern colonies were freed from convictism, the men of Perth asked for the transportation system rejected by others. Their petition was granted, and the convicts were sent the next year, and till 1868.

The result has been, in a material sense, of great advantage. A very large amount of money was put in circulation, and Western Australia was proved to be a better country than it was ever thought before to be.

Mines in Victoria District, north of Perth, have turned out very rich in lead and silver. The timber trees, equal to any in the world for shipbuilding, opened up a trade. Pearl fishery was successful on the coast. The pasturage turned out better elsewhere. New country brought new hopes for a future. The Colony, if not equal in variety of resources to New South Wales, or abounding in such tokens of civilisation as Victoria, can become a healthy and prosperous home to many.

Geography and Climate.

Western Australia occupies one-third of the continent, or 978,300 square miles, being nearly a dozen times as large as Great Britain. It is about 1,500 miles long.

Bounded on the north, west, and south by the sea, it has the meridian of 129° E. as the eastern limit on the side of South Australia. Part of its shore is 300 miles from Timor, and 800 miles from Java.

WESTERN AUSTRALIA.

Failure of
specula-
tion.

Flour 100*l.*
a ton.

Poor
farming
land.

Crown
colony.

Petition
for convict
labour.

Effect of
transporta-
tion.

Colony
risen in
repute.

Metals,
timber, and
pearls.

GEOGRA- PHY.

Area
978,300
square
miles.

Boundaries.

**WESTERN
AUSTRALIA.**
Swan
River set-
tlement.

Districts.

Though the coast line has been known more or less for 250 years, very little of the interior has ever been explored. Our information is almost limited to one-twentieth of its area, toward the south-west extremity, in what is called Swan River Settlement. What is beyond eastward can hardly be conjectured, unless it be a desert with some salt lakes. On the north-west side, except a fringe of fair land for 30 miles, it is poor; but great tracts of rich black soil are known north-east.

The lands discovered by Arnhem, De Witt, Edel, Dampier, and Tasman are on the Indian Ocean coast to the north. Nuyt's Land is only the southern shore to South Australia. The Denison Plains are south of Camden Harbour. Victoria District is in the neighbourhood of Champion Bay, to the south-west.

Mountains.

Excepting Kyenneruf, near King George's Sound, which is 3,500 ft., there are few points over 2,000 ft. high. The Darling, Stirling, Roe, Bennett, Dundas, and Russell ranges are in the Swan River Settlement portion of the Colony. Churchman is in lat. 30°, long. 118°.

A little northward lie the ranges known as Gairdner, Moresby's Flat-topped, and Victoria. Mount Bruce is to the east of North-west Cape. Mueller is near Sturt Creek. Waterloo and Trafalgar are in the extreme north-east.

Rivers.

Rivers.

These are very few and feeble. Some, like the Swan and Murchison, may be from 200 to 300 miles long, but are often without water for many miles in succession.

In the Swan River Settlement corner are the Swan, with its tributaries, Canning, and Avon. The Blackwood is near Cape Leeuwin. The Murchison, Irwin, and Greenough are toward Champion Bay. The Gascoigne reaches Shark's Bay.

On the northern side, east of North-west Cape, are the Fortescue and the De Grey, toward Roebuck Bay. Fitzroy River flows to Sunday Strait. Grey's Glenelg is not far from the north-east extremity, near Prince Regent River. The mouth of the Victoria is just outside the north-east border. The Oakover reaches De Grey.

Lakes.

The shallow salt lakes are very numerous to the east of the settled districts. Lakes Moore and Austin are north-east.

WESTERN
AUSTRALIA.

*Lakes.**Bays.*

Bays.

The Great Australian Bight, to the south, is the largest bay. There are, also, on the south side, Flinders and Irwin Bays, and King George's Sound. Géographe Bay and Peel's Inlet are south-west. Champion and Gantheaume Bays are north-west of Swan River.

Shark's Bay is higher up on the west coast. Roebuck Bay and King's Sound are about lat. 18° S. Nickol Bay is west of Roebuck Bay, in lat. $20\frac{1}{2}^{\circ}$. Cambridge Gulf and Sunday Strait are to the north-east. The mouth of the Glenelg is in Camden Sound or Harbour.

Capes.

Capes.

Cape Leeuwin is the south-western extremity, and North-west Cape the north-west one. Londonderry is to the north-east. Naturaliste is to the north of Leeuwin, and Nuyt east of it. Arid is S.E. of the colony.

Islands.

Islands.

Rottenest is near Swan River, and Dirk Hartog in Shark's Bay. The Dampier Archipelago is east of North-west Cape. Guano Lacepedes are north-west.

Towns.

Towns.

Though very small settlements exist in the north, on De Grey's River and near Camden Harbour, all the other townships are located within 200 miles of Swan River.

Perth, the capital, is in lat. 32° S., long. 116° E. Freemantle is its port. York is 60 E., Guildford is 9 E., and Albany, of King George's Sound, 250 S.E. of Perth; Geraldton, 300 N. Champion Bay. Bunbury, Busselton, and Pinjarrah are South; Roeburne, of Nickol Bay, is 1,200 miles N.W. of Perth. Port Eucla, S.E. by the Bight.

Climate.

CLIMATE.

The CLIMATE of Western Australia proper, that is, the south-western corner of the Colony, is one of the most healthy in the world.

*Healthy
S.W.*

WESTERN
AUSTRALIA.

The sterility of the country is most favourable to its healthiness, as there is no luxuriant vegetation decomposing to produce miasma, and there are no rich marshes and lowlands to breed agues and fevers.

The heat of summer, of course, provokes attacks of dysentery and ophthalmia, but these are usually reduced by care and temperance. Dec. 4, 1877, heat in sun 152°.

Rain.

Very dry.

Heat of
interior.

Sandy soil.

Northern
climate.

GEOLOGY.

Near the coast, about thirty inches of rain may be expected during the year, but much less an amount over the coast range in the interior. The rains come during the four winter months, and from the north-west quarter. In some seasons hardly a shower falls during the rest of the year. Snow has been known to descend on a range 3,500 feet high. Perth had 28 in. rainfall in 110 days.

The mean temperature of Perth is 63°. The sea-breezes qualify the heat of the sea-board settlements, though the interior is often subject to a considerable thermometrical elevation. The dryness of the air, however, renders the heat more endurable. Monsoons prevail.

King George's Sound has the advantage of a better rainfall, though the sandy soil around soon absorbs it.

In the Northern District, though in the tropics, there is very little humidity. The wet season is from the end of November to February. It is cool from March to July, and dry and hot from August to November. The south-east breeze prevails for months. The season for flowering plants on the elevated plains is two or three months later than in the valley of the northern rivers.

Geology.

The GEOLOGY of Western Australia is little known, as so very small a proportion of the Colony has been explored. It would appear that there is much granite and unsatisfactory sandstone, with few cases.

Although a great part of the continent was once covered with a thick deposit of tertiary cretaceous sandstone, yet subsequent denudations relieved the eastern side from much of this barren covering. Western Australia, however, has retained the chief portion, and is oppressed by its dry sterility. Victoria desert is 1,000 miles long.

Granite
and sand-
stone the
prevailing
rocks.

Trough-
like centre.

The centre of the continent is trough-like, the country rising from it towards the east, north, and west, though

but to a lesser amount towards the south. The rise to the west and north-west culminates in the vast plateau of Western Australia, two to three thousand feet high, and seen from fifty to two hundred miles inland from the coast.

The ranges in the south-west corner, by the settlement of Swan River, seldom reach three thousand feet. The central part is of primitive rock, and the sides are tertiary. No anticlinal axis has been clearly distinguished. The slate runs through the Darling range, and in some portions makes its appearance in the metallic Old Red Sandstone district of Champion Bay. On the Old Red Sandstone cliffs of Collier Bay the tides have produced needle-like points. Fossil plants as in India and Africa.

Some ancient limestone has been discovered in small areas to the north. But the vast bed of recent sandstone has been removed in too few places to make observations upon the primary rocks beneath.

The granite, as in almost all cases in Australia, presents an intrusive aspect in Western Australia. Patches crop out in the new country toward the Indian Sea, by the De Grey, &c. But eastward and northward from Cape Leeuwin, and north-eastward of King George's Sound, the granite is prominently visible as sheets on the surface, and as isolated hills.

Granite knobs thrust themselves up through the dreary sandstone at intervals from the Sound to the Australian Bight. They appear beside the salt lakes, and crop up at Champion Bay. Mount Magnet, east of Murchison river, is of a gneiss character. The Flat-topped range contains many granitoid rocks. Near Mount Kenneth the green and white ribbons of hornblende and quartz are much contorted. All the so-called granite country has only recently been freed from the incubus of sandstone. The tertiary beds usually rest on granite.

Secondary beds, of a cornbrash or inferior oolite kind, have been noticed not far from the south-west coast. A spiriferous limestone occasionally crops out beneath the sandstone of the north. The mesozoic is middle and lower.

The volcanic element is not strong. In the north, trap rocks occupy the position which the granite ones do in the south. Columns of basalt and greenstone rise on the coast from Cape Leeuwin and Cape Naturaliste. Near Géographe Bay, they have quite the look of a

WESTERN AUSTRALIA.

Plateau
land.

Primary
rocks.

Granite
intrusive.

Secondary
formation.

Volcanic
rocks.

Basaltic
columns.

**WESTERN
AUSTRALIA.**

Volcanic hills.

Giant's Causeway. Decomposed basalt is common on Moresby's Flat-topped hills. There is syenitic greenstone with conchoidal fracture north of Glenelg; and trap at the De Grey, Roe Plains, and Camden Harbour.

The headwaters of the Fortescue and the De Grey exhibit the basaltic formation. Black volcanic hills alternate with granite knobs, near the lat. 16° S. Greenstone is prominent at Nickol Bay. A volcanic region lies towards Shark's Bay and the Dampier Archipelago.

Tertiary rocks.

But the tertiary strata are all prevailing. In some cases, the sandstone element overcomes the cretaceous; in others, the limestone is stronger than the arenaceous. On the Denison Plains it is 300 feet thick. The table-land on the north side is 2,000 feet high. Around Mount Kenneth it rises 1,200 feet. Shark's Bay country is of limestone conglomerate, gypsum, and coral débris. The south coast rose suddenly in Miocene times.

Coal.

The Albrolohos are of sand, coral, and broken shells in limestone. The limestone shore of North-west Australia is similar to that of the Murray basin of South Australia. This is one of the largest formations in the world.

Carboniferous rocks are known to be beneath, appearing on the Irwin and Murchison. They are doubtless connected with the carboniferous system of Eastern Australia. The lead area is 5,000 square miles.

**GOVERN-
MENT.**

Council.

Resident.

**Separation
cry.**

Government.

Western Australia, by the introduction of convicts, has retarded its political enfranchisement.

The Executive Council consist of a Governor, Colonial Secretary, Surveyor-General, and Attorney-General. The Legislative Council has eighteen members—four official, four nominee, and 14 elective.

So vast an area, if it became at all populated, will naturally be constituted into several colonies, as New South Wales has been. At Nickol Bay, a Resident, or Commissioner, is the representative authority under the Governor at Swan River.

A separation movement has, however, commenced in the so-called Victoria District, by Champion Bay. The more energetic character of that population cannot submit patiently to the style of government which contented the old class of colonists.

The revenue of so poor a colony was a very limited one for a long time. In 1857, thanks to some prosperous years from British outlay, it rose to 89,079*l.*, while the expenditure was 90,100*l.* In 1878 the first amounted to 165,412*l.*, and the last to 182,959*l.* The present revenue is above that of 5*l.* a head. The debt in 1878 was 184,556*l.*

WESTERN AUSTRALIA.

Revenue
and ex-
penditure.

Population.

POPULA- TION.

The population grew very slowly for many years. Immigration was absolutely nothing after 1830. Twenty years after, the total gain to the Colony was but about a couple of thousand souls, so great had been the migration to other colonies.

In 1850, the returns gave 5,293. The arrival of convicts, with officers and soldiers, swelled up the number, in 1851, to 7,096, though only 2,444 were females. In 1859, there were 9,522 males and 5,815 females. At the end of 1877, the population, 27,838, consisted of 16,326 males and 11,512 females; in 1878, 28,166.

The *births* in 1857 were 507, in a population of 13,601; and the *deaths* were 153. In 1878 the former were 871, and the latter 394. The *marriages* for the year were 182. Births were 31, deaths 14, per 1,000.

In ten years, after 1849, the convicts introduced into the Colony were 5,500. The last arrivals came in 1868. The pensioners, 270 in number, do military duty for many colonial advantages.

The *Aborigines* of the colony have not been utterly neglected in the settled district, though few practical results have followed the efforts for their civilisation. Several schools and missions have been organised.

Outside the boundary of the settled parts, the country is too bad to keep the tribes in food, as game is very scarce there. Encounters have repeatedly occurred between explorers and the Blacks. There is but slight difference in the manners, customs, and appearance of these natives and those of Eastern Australia; though the languages, except in grammatical construction, are quite different. Dampier described them as more hideous than South Africans. They are far from being destitute of good feeling and intelligence. Their intercourse with the Whites has been no more happy and virtuous in Western than in Eastern Australia.

Numbers.

BIRTHS, &c.

Convicts.

Aborigines.

**WESTERN
AUSTRALIA.****Low state
Education.****R. Catholic
schools
alone.****State aid
to religion.****AGRICUL-
TURE.****Farmer's
trials.****Great
attention to
agriculture.****Education and Religion.**

The work of the schoolmaster was not an encouraging one of old. An effort is now being made, in the present revival of the Colony, to get teachers from the home country. The cost of schools, 1878, was but 8,578*l.*

A general system exists, with a very particular exception. There were, at the end of 1877, 74 public schools, under the Board of Education. But, as the Roman Catholics objected to the instruction of their children along with those of the Protestant community, special assistance, of a monetary kind, is given to the dissentients, who thus manage their own educational affairs.

The fees of the Roman Catholic schools are lower than in the regular public schools. Of the 74 schools, 20 were the assisted, or Roman Catholic ones. The total number of pupils in 1878 was : 2,344 in the public schools, 1,404 assisted, and 311 provisional.

State aid to religion is not abrogated in this Colony. One-half the people are Church of England, and nearly one-third are Roman Catholic. The Protestant Bishop of Perth has earned a good reputation for his devotion to the interests of the Aborigines.

Agriculture.

Though some good soil was found around York, on the banks of the Avon, Vasse, Arthur, and some other rivers, as well as near Champion Bay, the farmer has to struggle against many difficulties. With water supply, a fair crop can be guaranteed.

Land, for many years, was so cheap as scarcely to be marketable at all. The small town population furnished few consumers of produce. Convict establishments, however, brought paying customers to the farmer.

The aridity of the country, especially over the ranges, tells much against husbandry.

Notwithstanding all troubles, there were 23,008 acres in wheat, during 1878, 30,543 in corn, altogether ; 341 in potatoes ; 614 in vines ; 18,013 forage. The total acreage in crop was 51,674 ; a fair amount for so small a population as 28,000 persons, yet but 1 acre in 12,000.

The northern district by the Indian Sea is expected to be a sugar-growing one, having the advantage of contiguity to the cheap Asiatic labour mart. Extensive growth of the sugar melon is being made in the settled district, for the manufacture of sugar.

Wine is being very largely produced, the soil and climate being found, by experience, to be highly favourable to the grape. Fruits, in general, are very plentiful and of fine quality. Dried fruits are being exported.

The botany of the south-western corner of the Colony differs, in some respects, from that of Eastern Australia. The Jarrah, or mahogany, is of the Eucalyptus family; as is, also, the Tooart, or white gum. Both are ornamental and useful. The raspberry jam is the scented wood of the Acacia. The sandal wood is very valuable.

Pastoral.

While the acreage of the colony is 626,111,323, very little is available for stock, and still less for agriculture. The dryness of the air, and the poorness of the too-prevalent sandy soil, are not favourable to rich pasture.

Fine districts for the squatter are not wanting; but, except in the new country near to Fitzroy River and Nickol Bay, the area is limited. More abundant rains, and somewhat more favourable geology, yield nutritive grass for stock, especially on the Denison plains, 900 ft. high. The grass is generally tufty.

The vast desert to the eastward arrests the progress of the squatter; but in 1878-9, 25,000,000 acres of fair land were seen by the Fitzroy.

The poison plant is a great plague to the Western Australians. It looks something like clover at a distance, and has a pretty flower. Considerable tracks are monopolised by it. The agriculturist, to spare his home stock, will root it up by hand.

Still, the squatter is making decided progress, thanks to liberal land laws. The increase of animals has been satisfactory, as may be seen below:—

WESTERN
AUSTRALIA.

Sugar
culture.

Wine and
spirits.

Botany.

Sandal
wood.

PASTORAL.

Poor land.

Good runs
to the
north.

Year	Horses	Cattle	Sheep
1850	2,635	13,074	128,111
1859	8,386	30,990	234,815
1878	32,801	56,108	869,325

**WESTERN
AUSTRALIA.**

Wool.

Palestine
pastoral
system.

In the north district there were 56,000 sheep, 800 cattle, and 400 horses in 1873.

The wool export for 1877 was 3,992,487 lbs., valued at 199,624*l.*, but only 150,952*l.* in 1878.

Like as in the Holy Land, the owners of flocks and herds in Western Australia have to wander with them in search of pasture, and depend largely on wells for water.

Early in 1879, 24,043,423 acres in 4,515 runs were leased and licensed, but 3,423,000 were free.

MINING.**Mining.**

Taking the area of the Colony as a whole, there is less prospect of an extensive mineral deposit than elsewhere in Australia, owing to the extra space covered by the tertiary or desert sandstone.

Not
auriferous.

It is not a golden land, though poor quartz has been awhile worked near Albany. A bonus of 5,000*l.* was offered for a payable field, and gold has been found in several places. Silver has been obtained in the argenti-ferous lead mines. Copper was discovered on the northern coast by Captain King. The iron is said to be equal to any in Sweden. Zinc is seen on the Canning.

Copper.

Copper is hopefully exhibited in the Champion Bay district, the mineral region of the Colony. On the Irwin river some fine lodes have been cut. The Narra-Tarra, the Gwalla-Gwalla, Wheal-Arrino, Roebourne, Northam, and Fortune mines, once were in promising condition.

Lead and

But lead is being worked to decided profit in the Champion Bay country. The province of Victoria is rich in such deposits between lat. 28° and 30° South, from the Irwin river to the Murchison, and for, perhaps, 30 miles inland from the coast. Northampton has mines.

The mineral veins are only apparent where the overlying cretaceous sandstone has been denuded. Doubtless, therefore, other metallic treasures may be found by searching for places where this sterile covering has been removed by the action of rivers.

Geraldine
mine.

The Geraldine lead and silver mine has been a success. The export in 1878 of lead ores realised 43,410*l.* The first amount sent to England was in 1845. Want of labour has been urged as the cause of limited production. The lodes almost invariably run north 32 east, and from 5° to 15° from vertical. Elvan dykes, as in Cornwall,

have the same direction. The country is not such a killas one as the copper land of England.

It is said that a rich reward will follow the judicious employment of capital in the Victoria district mines. The Gneiss rocks are those found to be most productive. The iron-stone of the Darling range has long been recognised as a future source of wealth to the Colony. It is rich on the Wizard Peaks and in Brecknock Harbour.

Coal would be of great value if in suitably accessible localities. It occurs near the Irwin and the Murchison streams. One bed was seen, six feet thick; but the mineral was 40 miles from the sea, and in a difficult country. A sort of Welsh coal is known by the Fitzgerald river, near the south coast. A soft bituminous mineral has been found toward King George's Sound.

Encouragement is given by Government for the working of minerals. In 1878 were 26 leases, 52 licenses.

Recognised mineral land is sold in blocks from 80 to 160 acres at 3*l.* per acre, payable by instalments in three years. Annual Prospecting Licenses are granted, on a payment of 2*s.* an acre for the first year, and 4*s.* for the second. If paying quantities be found, a transferable lease for ten years may be had at 8*s.* an acre rent. Gold licenses have been issued for York, Avon, Vasse, Albany, and Victoria Plains Districts, with but poor results.

WESTERN
AUSTRALIA.

Iron-stone.

Coal.

Sales and
leases of
mineral
lands.

Trade and Manufactures.

TRADE.

Little communication is established between Western Australia and the other Colonies, though a trade in horses has sprung up with India, and hopes are entertained that the pearl fishery will open out prosperously for the colonial marine. The tonnage inwards in 1878 was Tonnage. 80,655 in 155 vessels.

The noble forests of jarrah wood will some day be utilised by local yards for ship-building. The metals are already employing a good number of vessels, and more will shortly be required for the increasing yield of produce in wool. Nickol Bay is demanding steam traffic with India. Guano and turtle come from Lacedepe isles.

The imports for many years were double the exports in value. In 1850 they were respectively 52,351*l.* and 22,195*l.*; in 1851, 56,958*l.* and 26,870*l.*; in 1859,

Imports
and
exports.

**WESTERN
AUSTRALIA.**

102,703*l.* and 44,193*l.* For the year to Dec. 31, 1878, these amounts increased to 379,050*l.* for imports, and 428,491*l.* for exports. Above half the exports were to England, a seventh to Adelaide, a ninth to Melbourne.

**Shell, pearl,
&c.**

Tortoise shell was first exported from Nickol Bay in 1868. In 1878 pearls and mother-of-pearl were 22,450*l.*; sandal wood, 35,064*l.*; lead, 43,410*l.*; timber, 63,901*l.*; and wool, 150,952*l.* Flour, once almost wholly supplied from abroad, is now home grown. Wool has greatly risen in production of late years. Guano fetched 66,095*l.*

**MANUFAC-
TURES.**

Manufactures have been encouraged from the poverty of the colonists depriving them of the power of purchase elsewhere. Prisoners' labour has developed workshops; and a protection policy is already spoken of as a means of fostering local effort, and retaining capital for home trade. In 1878 were 3 breweries, 6 saw mills, 2 foundries.

**Telegraph
to Adelaide.**

The telegraph wires extend from Perth by Port Eucla to Adelaide. The rail connects Port Geraldton with mining Northampton, 32 miles. Freemantle is being joined to Perth and Guildford. The timber south-western district needs tramways to carry jarrah wood. Pearl fishery boats pay 5*l.* to 30*l.* for license. Sandal wood brings 7*l.* 10*s.* a ton. The 13 Savings Banks had recently 1,400 depositors, and 26,000*l.*

Tariff.

The Tariff is heavier than in some colonies. Upon spirits the duty is 14*s.* per gallon; beer, 1*s.*; vinegar, 6*d.*; wine, 4*s.* That upon salt, onions, and potatoes, 10*s.* per ton; rice is 1*l.* per ton; soda, 1*l.* Cheese, cocoa, coffee, hops, spices, bacon, salt meat, dried fruits at 2*d.* per lb.; manufactured tobacco, 2*s.* 6*d.*; cigars and snuff, 5*s.*; tea, 4*d.*; sago, 1*d.* Moist sugar is 3*s.* per cwt. Dog licenses, 2*s.* 6*d.* to 1*l.*

On other goods, not freely admitted into port, an *ad valorem* duty of ten per cent. is charged. The export duty upon sandal wood is 5*s.* per ton, and on kangaroo skins, 1*s.* each. Pearl shells, 4*l.* per ton; guano royalty, 10*s.*

**LAND
LAWS.**

Land Laws and Immigration.

The Swan River Settlement originated in a system of grants of immense areas of country to a few individuals, who were to supply the new Colony with free immigrants, in number proportional to the acreage gift.

As land became the medium of exchange, and was

**Grants
at first.**

bartered for service and goods, it fluctuated in value. When the brief good times departed, land was truly a drug in the market, especially as its general character for poverty was well known.

The revival of the Colony, since the convict migration thither, has increased the demand for land. Sales have advanced. In 1856, 2,456 acres were disposed of; in 1860, 18,193; in 1865, 7,564; in 1868, 15,783; but in 1877, the sale fell to 7,233. Up to 1878, 376,546 acres were sold, and 1,591,641 were granted. Land sold, 1878, averaged 5s. 2d. an acre.

Much more land would have been purchased were surface water to be obtained. Tracts of good soil are known in parts of the eastern country, where plenty of water can be got by sinking. Droughts are not uncommon in parts where rivers exist, but which are repeatedly found dry for months together.

The land laws of the Council are liberal. Country land, in blocks from 40 acres, may be bought at 10s. per acre. Mineral land is 3*l.* Some runs are free.

Tillage leases are granted all over the Colony. The acreage must be less than 320 acres. The term is for 8 years, at a rent of 1*s.* per acre, or for not less than 5*l.* for a block. A freehold in 3 years if paying 7*s.* an acre.

The country, as to lands, is divided into North District and East District. The former is north of the Murchison river, and east of Mount Murchison. The latter is south of lat. 30°, and to the eastward.

Lands are either *A* or *B*. The *A* are the best pasture lands, and are leased at the rate of 2*s.* per 100 acres, in areas not exceeding 1,000 acres each. But the leases are only annual. The purchaser of 10 acres of *A* land has a certain right of commonage granted to him over contiguous pasture. Rent of *B* lands 10*s.* 1,000 acres.

On the *B* lands an area of 10,000 acres may be had on a lease of eight years for 5*l.* a year, and a fee of 10*s.* extra for each thousand acres selected. The lessee may purchase a homestead property, if not more than two acres for each hundred leased, at 10*s.* an acre. Such leased lands are available for purchase by the lessee after the first year, if not mineral land; or, in Homestead Areas, at the end of three years if improvements be made.

In other parts, called *O* lands, free pasturage is per-

WESTERN
AUSTRALIA.
Low price.

Land sales.

Droughts.

Tillage
leases.

Two
systems
of land
leasing.

**WESTERN
AUSTRALIA.**

**Free pas-
turage.**

**Other
licenses.**

**New Land
Law.**

**IMMIGRA-
TION.****HINTS.**

**Reasons for
going
there.**

mitted for the first two years over a space not exceeding 100,000 acres, and the squatter can then select 20,000 acres on a lease of eight years at 5s. per thousand acres. Lease of *A* and *B* lands, 14 years, 10,000 acres.

Timber licenses are 20*l.* a year for 640 acres, or 40*l.* for 1,280 acres, besides 10*s.* a year for each pair of sawyers employed. Sandal-wood cutters pay a fee of 2*s.* 6*d.* a month, the same as bark peelers.

By the Act of May 1873, land can be had in lots of not less than 40 acres at 10*s.* an acre. Blocks are to be purchased of from 100 to 500 acres.

Purchasers pay one-tenth deposit, and the balance in one month. But land can be had on the deferred system. Licenses are given at the rate of 1*s.* per acre rent. If the land be occupied and fenced within three years, and the balance of 7*s.* be paid, a Crown grant is given. Should longer credit be required it may be had. Poison plant areas are cheap indeed, but the lessee has to extirpate the plant.

The right of search for minerals is had for a fee of 2*s.* 6*d.* The payment of a pound extra gives right of mining. Blocks of mineral land of from 20 to 200 acres can be had on a seven years' lease at 5*s.* an acre rent.

Immigration is now solicited by the Government. To the man of sober habits, steady industry, and some enterprise, the supposed *slow* Colony of Western Australia has advantages. Colonists may nominate persons for assisted passages, 4*l.* being deposit for an adult. The immigrant is required to pay one-fourth the passage money within two years. A grant of 15*l.* worth of land is made to the immigrant who has paid his own passage. In 1878 the immigrants were 581; and the emigrants, 575. Agents, Messrs. Felgate & Co., Clement's Lane.

Hints to intending Emigrants to Western Australia.

While some persons go to the most prosperous colonies, others have found a visit profitable to those then neglected. Western Australia has long had a bad name. The early settlers were to a large extent unsuitable; and the localities they selected were not the most fortunate. The poison plant, the sandy interior, the salt lakes, the dry climate, the isolation from other colonies, have all been urged against it. The very poverty which induced

the settlers to ask for convict immigration operated still more strongly.

But with interest so high as it is there, some capitalists must be making money. It may be, also, presumed that the borrowers are so well engaged that they can afford to pay thus well for accommodation.

The commercial position of the Colony in relation to Asia ought to be turned to account by enterprising immigrants, though the people have been too long content with half labour to put forth energy for it themselves. The timber trade has never been well wrought, though no place has finer woods than that west of King George's Sound. Yarrah wood-cutters are in demand on the Vasse river. The wood resists the sea-worm.

Sandal wood is an established and easily managed employment; but pearl fishery could be extended very largely, and with the aid of Asiatic divers. At present 600 to 900 divers are employed, one-third of whom are Malays, and two-thirds are Australians. The season is from September to April. The principal place is from Exmouth Gulf to Camden Harbour. Mother-of-pearl now brings 120*l.* a ton. One ship lately had 350 ozs. of pearls, and another 50 hogsheads of shells. One pearl was worth 5,000*l.* A recent season closed with 265 tons, worth 45,000*l.* A great fishery is between the head of the Ashburton and Fortescue Rivers, and in Shark's Bay. Tsin-Tsin, the pearlers' port, is N.W.

Squatting pursuits are open to the investor, though he need avoid poison-plant localities, and dry sandy wastes. The grass is often very tufty, but still nutritious. The country is not, like New Zealand, fit for the man with a small flock. Mining pursuits reward labour, and are very promising. Families may get 150-acre grants.

The high duty on spirits may check the prevalent intemperance in the Colony; but the morals, generally, have not been improved by convictism, though that has now ceased. The climate is considered very favourable to health. An Englishman would be likely to find a better home in Western Australia than in many parts of America. Wages are high, food is cheap, and farms are to be had on easy terms, in this land of fruit and bright skies.

WESTERN
AUSTRALIA.

High
interest.

Good pros-
pects for
immig-
grants.

Better than
many parts
of America.

TASMANIA.

Discovery and History.

TASMANIA.

THIS charming island lies to the south of Victoria, from which it is removed by a steam passage of twenty-four hours only.

Tasman's discovery, 1642.

On the first of December, 1642, Abel Jansen Tasman, a Dutch navigator, anchored off its shore in his voyage from Western Australia. He named it Van Diemen's Land, after the governor of Java; though, since the abolition of transportation, the appellation of Tasmania has been given to the Colony.

His search for the South Island.

Tasman had been despatched from Java, in the yacht 'Heemskirk,' and the fly-boat 'Zeehaarn,' with orders from Governor Van Diemen to find out, if possible, the southern extent of 'The Great South Land,' afterwards called 'New Holland,' and now known as 'Australia.'

Particulars of this voyage are found in the brief journal of the captain. The introduction to the narrative sets forth the piety of the worthy Dutchman; as it says, 'May God Almighty be pleased to give his blessing to this voyage! Amen.'

Particulars of his visit.

After sighting Point Hibbs, on the west coast, on the 24th of November, he rounded South Cape, and determined, as he thought, the southern extremity of the Great South Land. On the 1st of December he anchored in Frederick Henry Bay, so called after the Stadtholder of Holland, the father of our English William III. Two days after he resolved to take possession of the new land. But the surf was too strong for a boat to approach the shore. The carpenter, however, one Peter Jacobs, boldly leaped into the sea with the flag of the Prince of Orange, and swam with it through the breakers.

Maria, daughter of Van Diemen.

Off the east coast Tasman sighted a lonely island, which he tenderly called after Maria, the daughter of his friend Van Diemen.

The next visitor was a Frenchman. Captain Marion was in search of the southern Continent in 1772, when he fell in with the natives. This first meeting of whites and blacks in Tasmania was a bloody one, a sad omen for the future. Captain Furneaux, of the 'Adventure,' was the earliest English caller. He entered Adventure Bay, Bruny Island, in 1773. He afterwards reported to his commander, Cook, from whom he had got separated, that there was only a deep bay between New Holland and Van Diemen's Land.

In January, 1777, Captain Cook, in his last voyage, saw the so-called Diemenses, and wrote the first story about them. Captain Bligh, of the 'Bounty,' afterwards Governor of Sydney, was at Adventure Bay in 1788.

Another distinguished visitor was the French Admiral D'Entrecasteaux, who arrived with Captain Huon Kermadée in 1792, and who left a pleasing record of his intercourse with the aborigines. His naturalist, Labillardiere, wrote concerning the animal and vegetable wonders of the place. Captain Hayes followed in 1794, and named the Derwent river.

Mr. Surgeon Bass has the merit of discovering the country to be an island. Leaving Sydney with Lieutenant Flinders, subsequently the discoverer of South Australia, &c., he crept along the shore in a boat but eight feet long, and noticed the great swell off Western Port. In a larger craft the two friends, in 1798, passed through Bass's Strait, and sailed round the island.

The account Mr. Bass gave of the Derwent river was undoubtedly the means of the land being colonised five years after.

Napoleon despatched the 'Geographe' and the 'Naturaliste' on a voyage of discovery just when Flinders was sent on his voyage. Captain Baudin spent a considerable part of 1801 in the southern part of Tasmania. Being accompanied by twenty-three men of science, the island then received a valuable scientific examination. Peron, the historian of the expedition, wrote a romantic story of their intercourse with the simple and interesting islanders.

The earliest attempt at any settlement was made with a party of convicts from New South Wales, in 1803, to

TASMANIA.

French
Marion,
1772.

Furneaux,
1778.

Cook, 1777.

D'Entre-
casteaux,
1792.

Hayes at
the
Derwent.

Bass and
Flinders
circum-
navigate
the island,
1798.

Baudin's
explora-
tion, 1801.

HISTORY.

TASMANIA.

First settlement of the Derwent, 1803.

Hobart Town by Collins, 1804.

Launceston in 1806.

Black War.

Transportation ceased.

GEOGRAPHY.

counteract the supposed plans to form a French colony in Van Diemen's Land. Lieutenant Bowen landed at Risdon, on the Derwent. It was there that, through the blundering or rashness of our marines, a terrible slaughter took place of hundreds of aboriginal hunters.

In October, 1803, Captain Collins sought to establish a penal settlement on the shore of Port Phillip. Not approving of the site, he requested permission from Governor King, of Sydney, to remove to the Derwent. Early in 1804 the whole party left the continent, and organised a settlement at Hobart Town.

About this time another location was made at the mouth of the Tamar, and removed, in 1806, to Port Dalrymple, or Launceston. Two lieutenant-governors, independent of each other, ruled in the same island till 1812, when Hobart Town became the capital of Van Diemen's Land.

The early history of the island is a dark and sorrowful one. The home of convicts was plagued by scenes of violence. Bushrangers in armed bands contended with soldiers and constables. The celebrated *Black War* between the colonists and the natives lasted a number of years. In 1830 a *levy en masse* of the population took place, which resulted in the capture of a single black, and the death of no one. Peaceful negotiation effected what arms did not. The remnant of the race submitted. At the present time only one Tasmanian native, an old woman of seventy-eight years, is alive.

The convict system of transportation was not abolished till after the gold discovery in Australia. Free settlers received grants of land on condition of employing the prisoners. The population gradually changed its character, till, from being a prison home of crime, it has become one of the most moral countries in the world, as it is, doubtless, the most healthful and beautiful.

Geography and Climate.

The island has an area of 24,600 square miles, including the surrounding islands, being only about a couple of hundred miles across, and 200 from Victoria.

Mountains.

Mountains.

It is one of the most hilly countries in the world. Though the shores are usually bold, the land generally

rises toward the central part, forming a plateau 4,000 feet high.

On the north-east side are Ben Lomond, 5,000 feet; Ben Nevis, 4,200; Black Bluff, 4,380; St. Paul's Dome, 3,370; and Mount Nicholas. To the north-west are Dry's Bluff, 4,250; Gog and Magog, Surrey and Hampshire Hills. Bischoff and Ramsay are north-west.

The central peaks include Brady's Look-out, 4,500; Miller's Bluff, 3,980; and Table, 3,660. The western are Cradle, 5,070; Frenchman's Cap, 4,760; Wyld's Craig, 4,400; Eldon, 4,790; Victoria, 3,960; Valentine, 3,640; Franklin, 3,580. Arthur and Bathurst ranges are S.W.

On the Hobart Town side are Wellington, 4,170; Dromedary, 3,245; The Thumbs, 1,800; Bruni, 1,660; Cape Pillar, 890. Bischoff is 2,500; Ramsay, 4,000.

Rivers.

Rivers.

The Inglis, Cam, Emu, Severn, Forth, Don, Mersey, Rubicon, and Tamar flow to the Bass's Strait. The North Esk and South Esk unite with the Tamar at Launceston. The Meander or Western, and the Macquarie are South Esk branches; the Blackman, Elizabeth, Lake, and Isis fall into the Macquarie.

On the east are the George, Douglas, Prosser, and Coal. On the west are the Arthur and Hellyer, north; Gordon and Franklin, of Macquarie Harbour; and Spring, of Port Davey.

The Derwent, by Hobart Town, flows from Lake St. Clair, receiving the Nive, Florentine, Dee, Clyde, Ouse, and Jordan. The noble Huon runs into the D'Entrecasteaux Channel.

Lakes.

Lakes.

The central lakes are about 4,000 feet high, and are very deep, as the St. Clair, Sorell, Crescent, Echo, and Great Lake, fifty miles round. Edgar and Pedder are west of Hobart Town, and Tiberias is near the source of the Jordan.

Bays.

Bays.

On the north are Ringarooma, Port Dalrymple, Port Sorell, Port Frederick, and Emu Bay. Port Davey, Bathurst Harbour, and Port Macquarie are westward.

TASMANIA.

Marion, Frederick Henry, Prosser, Spring, and Oyster Bays, with Swanport, are on the east side.

Southward are Storm Bay, Pittwater, Southport, and Recherche Bay. D'Entrecasteaux Channel, west of Bruni Island, meets Storm Bay not far from Hobart Town. Port Cygnet and Oyster Cove are in the channel. Cook's Adventure Bay is in Bruni. Norfolk Bay and Port Arthur are in South-eastern Tasman's Peninsula, which is joined to Forrestier's Peninsula by Eagle Hawk Neck.

*Capes.**Capes.*

On the north are Table Cape, Circular Head, Cape Grim, and Portland at the north-east. On the west are Northwest Point, West Point, Point Hibbs, and Rocky Point. On the east are Bougainville, Waterloo Point, Long Point, Patrick's Head, and St. Helen's Point. On the south are South Cape, Southwest Cape, Whale Head, Fluted Cape of Bruni, Raoul and Pillar of Tasman's Peninsula.

*Islands.**Islands.*

Bruni, fifty miles long, and De Witt are to the south. Schouten and Maria are eastern isles. Those in Bass's Strait are Flinders, 500,000 acres; King, forty miles long; Hunter's Isles, Robbins, Barren, Clarke, Crocodile, the Devil's Tower, Curtis, and Swan. Banks' Strait divides Furneaux isles from the main. Kent's group lie to the eastward of the Strait. There are altogether fifty-five Tasmanian islands, too rocky for fertility.

*Divisions.**Divisions.*

The eighteen counties are thus situated:—Wellington, Devon, Cornwall, and Dorset in the north; Glamorgan, east; Franklin, Russell, Montagu, Arthur, and Montgomery, west; Monmouth, Pembroke, Buckingham, and Kent, south; Lincoln, Somerset, Westmoreland, and Cumberland, central.

The seven Police Districts are Emu Bay, Franklin, Georgetown, Hobart, Port Sorell, Russell to the north-west, and Selby on the Launceston side. There are, also, nineteen rural municipalities.

Hobart Town, on Sullivan's Cove of the Derwent, is in lat. 43° S., long. $147\frac{1}{2}$ E., and contains 20,000 people. Launceston, once Port Dalrymple, 120 miles north, at the head of the Tamar, has 11,000.

Of the southern townships on the road to Launceston, Newtown is 2 miles from Hobart Town; Glenarchy, 5; Bridgewater, 12; Pontville of Bagdad, 16; Greenponds, 28; Jericho, 44; Oatlands, 51; and Tunbridge, 65.

Of other southern and eastern ones, Brown's River is 9; Sorell, 13; Richmond, 14; New Norfolk, 20; Jerusalem, 25; Franklin of the Huon, 26; Hamilton on the Clyde, 40; Bothwell, 45; Dover of Esperance Bay, 50; Spring Bay of Prossers, 55; Port Arthur, 65; Hythe of Southport, 65; Swansea of Swanport, 90; Penguin, N.W.

On the north side, Perth is 11 miles from Launceston, Evandale, 11; Snake Banks, 19; Longford, 14; Westbury, 20; Deloraine, 30; George Town, 35; Ilfracombe, 40; Campell Town, 40; Ross, 48; Fingal, 66; Torquay, 70; Black Boy, 84; Emu Bay, 102; Wynyard, 114.

Burgess is at Port Sorell, Stanley at Circular Head, Bathurst at Port Davey, Victoria at Huon, Seymour, E. coast, Lempriere on Tamar, Bischoff 50 S. Emu Bay.

Climate.

CLIMATE.

The CLIMATE of Tasmania gives the island the appellation of the Sanatorium of the South. Perhaps no part of the world equals it in adaptation to the physical condition of man. The area is so small, and the country so hilly, that a considerable change of temperature can be obtained by a journey of a few hours only.

That the summer is not without a very high thermometer is certainly true, though the night after a hot day is deliciously cool and restorative. The sea-breezes temper the heat, and the mountain airs perform the same office. The continued and exhausting high temperature of the continent is not experienced in the little island.

The fierce hot wind visits the place in summer. It is probably but the northern blasts from Australia, which, after rising in passing the cool Straits, descend upon the plains of Tasmania, giving an occasional 130° in the sun.

Heat
tempered
by breezes.

Cause of
hot winds.

TASMANIA.

Hobart town mean
54°.

In the winter the cold is sufficient to produce thin ice on the lowlands, with snow showers among the elevated ranges.

The mean temperature of Hobart Town, as ascertained in the observations of twenty-five years, is 54° 45'. The lowest usually felt is 29°. The summer mean is 62°, and the winter 47°, producing a most salubrious climate. The barometrical mean is 29°.807, the extreme being 30°.812 and 28°.510. The dew-point mean is 45 $\frac{1}{2}$ °.

Rain.

The rain is a very variable quantity. While some parts of the little island have not much more than falls in the interior of Australia, others suffer, like the west coast of New Zealand, from an excess of moisture. While the east coast had, like Hobart Town, but 20 inches, Launceston had 32; Circular Head, 35; Port Arthur, 45; Hampshire Hills, 65; and Macquarie Harbour over 100.

Settled parts not wet.

The mean, through thirty-five years, has been 24 inches at Hobart Town. This is considerably less than almost any port of consequence throughout Australia and New Zealand. But the clouds laden with wet are usually arrested by the high ranges on the western or wet side of the city. All the settled part of the country is in like manner shielded by the lofty tiers from much rainfall. The north side, by the Strait, has more rain.

Hobart Town humidity.

The variation of Hobart Town humidity is not trifling, as the following record of inches will prove:—1843, 13.43; 1841, 13.95; 1847, 14.46; 1850, 14.51; 1863, 40.67; 1878, 29.76. South Australia and the interior portions of Queensland and New South Wales are the only places where such low rates may be observed. There is, nevertheless, a wonderful difference between the evaporation of Hobart Town and its neighbours; yet, in the five years ending 1870, while the rainfall was 115 inches, the evaporation was 210, or 95 excess.

Winds.

The mean number of rainy days at the capital is 145. The prevailing winds are from the north-west and south-east. The mean force is 64 lbs. to the square foot. The island is in no want of winds, because of the mountains. Storms from the south-west render navigation rather dangerous off the south coast. The cyclones, though of less strength than along the shores of Australia, have the

same direction. They have an opposite course to that on the north side of the Line, being from N.E. to S.W.

The ozonometer indicates a pure atmosphere, being as high as 7·18. The ozone is most plentiful with a south wind and a humid atmosphere.

Dr. Hall says, 'No part of the world is, perhaps, more favourable to infant life than Tasmania. About nine out of every ten children born survive the first year of life.'

TASMANIA.

Ozone.

Healthy
for
children.

Local Natural History and Botany.

NATURAL
HISTORY.

The fauna of Tasmania is, to a great extent, similar to that of Continental Australia; still there are certain differences which demand a passing notice. It is a remarkable fact that in such a comparatively small island there should exist two genera of carnivorous marsupials, of considerable size, which are not to be met with on the mainland. These are the *Thylacinus cynocephalus*, or 'tiger-wolf' of the colonists; and the *Sarcophilus ursinus*, or 'native devil.' The former dwells amidst the fastnesses of the rocky 'gullies,' in the impenetrable forests of the island. It is decidedly the most formidable and blood-thirsty of all Australian quadrupeds. This marsupial or pouched wolf, although not sufficiently powerful to attack man in ordinary cases, formerly committed sad havoc amongst the flocks of the settlers in the vicinity of the densely-wooded mountains, from whence it issued forth at night in search of its prey. This creature, which has somewhat the aspect of a dog, with a prolonged snout and a long thick tail, has short powerful legs, and when full-grown measures between three and four feet from the nose to the tip of the tail. It is of a greyish-fawn colour, handsomely marked across the hind-quarters with dark bands or stripes.

'Tiger
wolf.'

The *Sarcophilus* was styled the 'native devil' by the early settlers, on account of its black colour and disgusting appearance. It is a savage and untameable animal, and is not only destructive to the smaller native quadrupeds, but attacks the sheepfold of the farmer and the hen-roosts of the homestead. It attains a length of two and a half feet, is a short, thick-set, ungainly-looking beast, with a large bulldog-like head and jaws, armed with formidable teeth. It has a short, waddling sort

'Native
devil'

TASMANIA.

- of gait, and, like the *Thylacinus*, is nocturnal in its habits.
- Wombat.** The wombat of Tasmania differs from the species inhabiting the mainland. It has a narrower head, with a short, sharp snout, and a very dark-coloured fur. It is the *Phascolomys wombat* of naturalists, the earliest discovered species of the genus.
- Birds.** Birds are very numerous, and some of the smaller species appear to be peculiar to the island, though the majority are identical with those of other portions of Australia. Only three species of snakes occur in Tasmania, all of which are venomous. English salmon and trout have been successfully acclimatised in the Tasmanian rivers. The forests are far more densely wooded than those of the mainland, and the trees attain an enormous height and development. Many of them are famous for the valuable timber they produce. Beautiful cabinet-woods and the largest sized timber alike abound. The celebrated Huon pine (*Dacrydium Franklini*), which grows profusely on the West coast, is a most important production; its great durability and its quality for resisting the attacks of insects make it valuable for both house and ship building. The fragrant acacia, the sassafras, and the musk-wood, would all yield their grateful odours, were the perfumer only to exercise his art upon them. The beauty of the so-called 'myrtle-wood,' when polished, can hardly be surpassed; its immense size also (being 200 feet high and 40 in circumference) is a great advantage to the cabinet-maker. The blue-gum (*Eucalyptus globulus*) attains, in Tasmania, its extreme development in both girth and altitude. Fine examples of this noble tree are from 300 to 350 feet in height, and from 50 to 100 feet round the base. In the forests, trees are often found with a clear 200 feet below the first branch. The age of some of these trees has been estimated at 1,000 years. The wood of the blue-gum has proved to be the best kind of timber in the world for ship-building purposes. Tree-ferns, almost equalling in size and elegance those of New Zealand, grow in the mountain glens; and a great variety of smaller ferns are to be met with everywhere.
- Many of the native flowers differ from those of Con-

tinental Australia, and are remarkable for their curious forms and beautiful colours. The *Telopia* grows abundantly on the sides of the mountains. Amongst the Tasmanian flora may be enumerated the *Blandfordia*, or Tasman lily; the *Prostanthera*, or native lilac; the creeping *Kennedia*, 'the wax-flower,' 'the native rose,' 'the clematis,' and many kinds of *Epacris* and terrestrial orchids.

TASMANIA.
Native flowers.

Geology.

GEOLOGY.

Tasmania was at no remote period united to Victoria. The granite of the Wilson's Promontory on the continent corresponds with the granite of the north-eastern corner of the island, while the granite isles in the Bass's Strait are so many stepping-stones across, being the peaks and highlands of a submerged district.

Once united to Victoria.

While ranges appear to ramify in all directions, there is a general trend of mountains to the south-east. The centre, or, rather, a little northward of the centre, is a great plateau, with broad and deep lakes. North, east, south and west the hills reach the sea, though plains of an elevated character are traced throughout. The great amount of eruptive rocks gives a sublimity and beauty to the landscape, while affording fertile meadows and glens for the farmer.

Plateau central.

Primary rocks occupy by far the largest area. The metamorphism is stronger than on the continent. The palaeozoic rocks form the framework of the country, and are found everywhere. To the westward, the quartzose aspect of the hills is discovered far out to sea. Quartz is present largely throughout the interior, and in the northern districts. The acidic decidedly prevails over the basic in the north-east and west, though the basic has the advantage to the south and south-east.

Primary formations.

The Silurian upper series are hardly noticed west of the river Forth. Contorted slate occurs in very many places, especially in the valley of the South Esk, at St. Paul's Dome, and to the west. Chlorite schist abounds at Cape Grim, good slate between Circular Head and the Mersey, quartzose slate to the north-east and south-west, claystone near Hobart Town, talcose slate at Mount Gell, mica slate at Port Davey, siliceous limestone on the west bank of the Tamar, altered upper Palæozoic

TASMANIA.

among the Eldon Tiers, tessellated pavement at Eagle Hawk Neck, mudstone at the Huon, while perpendicular bands of crystalline rock appear in the pass leading out to the sea at Falmouth. Fine slate is at Piper's River.

Granite.

Granite forms almost the whole north-eastern coast, from Falmouth to St. Patrick's Head. It is the marked feature of the lake country, and of the mass of mountains east of Macquarie Harbour. Frenchman's Cap, of granite and metamorphic rock, has a quartz top, and Mount Cradle granite is highly quartzose. While Mount Picton has the quartz on the west, it has true granite for its summit. But the Cape Portland country is particularly granitic in character. The Ben Lomond and Ben Nevis chains, to the north-east, are chiefly of granite. Schouten Island has granite on the east side.

The Straits have hundreds of rocky islets of granite. The Devil's Tower is 350 feet high. One island, from its supposed shape, is called the Slipper; another the Elephant, a third the Crocodile. Tors of granite are quite common. Mount Bischoff country is granitic.

Secondary formations.

The Secondary, or Mesozoic, formations occupy a fair space about Jerusalem and Bagdad, especially in relation to coal beds, like the Wiannamatta of Sydney.

Sandstone.

The Hobart Town sandstone is ranked by Professor McCoy with the New Red of Liverpool and Cheshire, and contains a good deal of salt and alum. It has been much denuded, the hills of it being seen capped with basalt. In this rock the femur of the *Labyrinthodon* was found just outside the town. The Knock-lofty and Cascade sandstones, with the beautiful building stone of Kangaroo Point, belong to that era. This rock is often seriously invaded or cut off by igneous floods. Where the sandstone has been removed, the claystone floor of the Mount Wellington formation comes to the surface. The Hobart Town sandstone is largely exported to the other colonies for the ornamental parts of buildings.

Limestone.

The carboniferous limestone appears as a sort of longitudinal strip alongside of the sandstone in the Derwent Valley. Limestone caves of great extent occur on the north coast. One, about 15 miles from Deloraine, has been followed down for more than two miles, and contains fine specimens of stalactites and stalagmites. The carboniferous flagstones of Fingal merge into the

Wellington limestones. The limestones of the Mersey country, onward to the Middlesex Hills, are much admired. The marble of Chudleigh, by Deloraine, is exported. The same rock lies on the siliceous slates of the Eastern Marshes. The western Gordon River has torn a passage through fossiliferous limestone, which is, like that by the Florentine, of the Wellington character.

The *Coal* formation of the island has been regarded by Mr. Selwyn and Prof. McCoy as only mesozoic. Mr. Gould, Tasmanian Government Geologist, contends that the coal is of two distinct ages—Palaeozoic and Oolitic.

Though the west side is not without some carboniferous element, it being seen near the Nive, the chief localities are eastward and southward. The Fingal coal-field is of large extent. The bituminous mineral is got from horizontal beds of sandstone and crinoidal limestone, and in seams of even a dozen feet in thickness. Near Mount Nicholas, above ten miles from the east coast, it showed, upon analysis, 70 parts of carbon, 5 of hydrogen, 5 of oxygen, and 10 of nitrogen. The coal is well developed about Seymour, Bicheno, and the Douglas River of the east coast. It is seen on the side of Ben Lomond at the height of 3,500 ft.

Southward it is found in connection with the sandstone in the neighbourhood of Hobart Town, at Richmond on the Coal River, and northward at Jerusalem in sandstone 1,000 ft. thick. The Jerusalem coal, 800 ft. above the sea, is in a grey sandstone, but much interrupted by intrusive greenstone. It contains 72 parts carbon, 14 hydrogen, 4 oxygen, and 9 nitrogen. On the eastern Schouten Island, Dr. Milligan believed three million tons of good coal existed. Maria Island is also rich in coal. The Newtown coal, by Hobart Town, is of a serviceable character, though with too much sulphur and anthracite. Dr. Hector calls it Jurassic.

The Storm Bay has cut off the coal beds of Tasman's Peninsula from those of Bruny Island, Brown's River, Southport, and Recherche Bay. The basalt of Port Arthur is, perhaps, the cause of the anthracitic feature of the coal there. Greenstone cuts up the field on the shores of D'Entrecasteaux Channel. While the sulphur is so great in the anthracite of Southport as to make the mineral unfit for domestic use, the Recherche coal con-

Coal of two
ages.

TASMANIA.

tains 72 parts carbon, 14 hydrogen, 5 oxygen, and 6 nitrogen.

On the north side of the island the carboniferous rocks provide an excellent bituminous mineral on the banks of the Mersey, Don, and other rivers, though Mr. Selwyn doubted the extent of its area. Lignite is dug near Port Sorell and on the banks of the Tamar.

Dysodile.

Near the Mersey is found the brown substance known as *dysodile*, burning with much smoke and a white flame, but emitting a peculiar odour. The resinous substance in it is called *Tasmanite*. Mersey coal is Permian.

Tertiary rocks.

The *Tertiary* beds are supposed by Mr. Gould to cover half the surface of the occupied part of the colony. They are by no means extensive beyond that location. A good stretch of them runs northward to Launceston from Epping Forest, Evandale, and the Norfolk Plains. Count Strzelecki calls this a siliceous breccia and coarse sandstone. The formation is only bounded westward by the precipitous Western Tier. The valleys of the Derwent, Gordon, Mersey, Jordan, and other large rivers display the tertiaries. The basaltic plains of the interior belong mainly to that epoch. The marine tertiary is on the north-west side, not south or east.

Travertine.

Near Hobart Town, at Gerlstown Bay, some travertine beds of freshwater limestone have been described by Mr. Wintle. Freshwater limestone also shows itself at Richmond. There are raised beaches on both sides of the Derwent; and oyster beds on the Sorell Bluffs are now 100 ft. above the sea. Pleistocene boulders of greenstone, as much as seven feet in diameter, are seen near Hobart Town. Mr. Gould has recorded observation

Moraines.

of some glacial moraines at the end of Cuvier Valley, to the westward. These proclaim the fact of the island having once had a greater elevation than at present, though several peaks are 5,000 ft.

Island once higher.

Gold is found under circumstances similar to those of Australia and New Zealand. Specimens have been taken from the Frenchman's Cap, Port Davey, Point Hibbs, the base of Mount Arrowsmith, and the Hellyer and other western waters. But the best workable veins have been found in the north-eastern angle of the island, as in the Fingal District, Piper's River, &c. The slate of Fingal is vertical and meridional, as on the Victoria diggings. A specimen of gold was taken from coal.

The *igneous* and *volcanic* rocks of Tasmania give it quite a distinctive character.

Porphyries and greenstones of ancient date occur, with basalts of, according to Strzelecki, four different epochs, extending down to Pliocene days. But, unlike New Zealand, the country exhibits no modern development of lavas, cinders, and ashes; nor has it, like Victoria, a number of extinct cones and craters.

The greenstone has been thought by Mr. Gould to have continued its eruption after the deposition of the coal beds, as it often cuts up the carboniferous fields. Unlike basalt, this rock never occurs as a lava. The rock forms a prominent feature on one side of Mount Wellington, where it presents a bold front of prismatic columns hundreds of feet in height, or lies strewed in enormous fragments, as the so-called *Ploughed Field*.

It is the table land of Ben Lomond, 5,200 ft. The central plateau is almost a mass of greenstone, while on the shores of Bay Storm and the Channel it overwhelms everything. It boldly rears at Dry's Bluff and other steep mountain sides. On the western side, excepting toward the lake country, it is not conspicuous. On the north, likewise, its comparative rarity is obvious. In the middle of the island, from Hobart Town to Perth, the traveller can go but few miles without its presence. It is the capping rock of the hills in Fingal and Avoca districts, resting on the Dome, on Mount Nicholas, &c., and proving, by its isolation on such summits, how extensive was the ancient denuding force. Schouten Isle has greenstone on the west side, and Bruni Island has it on the south. Diorites are at Whyte R. and Mt. Bischoff.

Greenstone is often the formation of the celebrated Tasmanian waterfalls, as at Mount Wellington and at the cataracts of Launceston.

Basalt often flows over greenstone, and extends in the plains of Bagdad, Ross, Macquarie, Middlesex, Break-o'-Day, Salt Pan, &c. It meets the greenstone on Mount Wellington, and pierces the Hobart Town sandstone. Upon Tasman's Peninsula the basalt and greenstone monopolise the surface of the country. The waters of the Derwent and Huon are separated by basaltic mountains. Circular Head, North Bruni, Mount Hugel, Mount Picton, Maria Island, and Campbell Town district are highly basaltic, like the Bischoff tin area.

TASMANIA.
Igneous
rocks.

TASMANIA.

While no ash has been found, there is some scoria at Sandy Bay and Table Cape. Mr. Wintle regards some of the basaltic eruptions as subaërial.

Fossils.

The *fossils* of the country differ but little from those of the main, excepting in the discovery of the labyrinthodon, a gigantic frog, in the Hobart Town sandstone. The ancient rocks, particularly the claystone of Mount Wellington, &c., contain only casts of spirifers, &c. One of the spirifers is like that in the English mountain limestone. The lace coral, *fenestilla*, is often very beautiful in the beds beneath the coal. The carboniferous limestone of the more arenaceous strata abounds in casts. Trilobites are in the Mersey limestone.

The coal flora has been called oolitic. Fossil plants have been obtained at very nearly the top of Mount Wellington. The bones of the *thylacinus*, or tiger, with other remains, have been seen in a bone cave near Hobart Town. Neither ammonites nor belemnites are recognised in the formations of Tasmania. An orthoceras, 14 inches long, was recovered from the carboniferous limestone of O'Brien's Bridge. The Hobart Town travertine has impressions of leaves of existing species.

Petrified tree.

Fossil wood is very abundant near the coal centres. The petrified trees of Macquarie Plains, &c., are sometimes known erect, surrounded and opalized by basaltic lava. The trees are conifera, and different from those growing now in the island.

GOVERNMENT.Two governors.Independent 1825.Councils.**Government.**

The north and south sides of the island were at first so separated by scrub and rocks, and so divided in their interests, that one Lieutenant-Governor ruled in Hobart Town and another in Port Dalrymple or Launceston, while both received their orders from Sydney. The two governments were afterwards united.

After 1825 the colony was declared independent of New South Wales. Under some Governors, especially Colonel Arthur, the rule was rather a despotic one. But at first one concession and then another came, till political emancipation followed. The Constitution of 1855 completed the freedom. The Executive Council consists of a responsible ministry. The Legislative Council has 16 members, and the House of Assembly has 32; the

first for six years, and the other for five. There is no manhood suffrage, as in Victoria. There are 32 electoral districts.

The ordinary revenue was 381,936*l.* in 1878, and the expenditure, 371,145*l.* The revenue for 1880 was estimated at 381,000*l.* The expenditure in 1856 was 440,687*l.*; and in 1857, 369,600*l.* The public debt in 1878 was 1,747,400*l.* An interest of 6 per cent. is guaranteed upon an expenditure of 650,000*l.* for the Hobart Town and Launceston railway. The taxes are rather burdensome for the means of the inhabitants.

It has been thought that Tasmania would be better joined to Victoria, under one common government.

Population.

Though the colony was founded in 1804, the first reliable census was in 1818, when there were 2,320 men, 462 women, and 458 children—3,240 in all.

In 1841 a change appeared. There were 33,086 men, 11,388 women, 12,946 children. In 1854 the children for the first time overtook the men in number. In 1871 those under 20 were twice the number of the men.

At the last census, that of 1870, there were 99,328 inhabitants—52,853 males, 46,475 females.

The females under the age of 30 were considerably in excess of the males. After that age, the influence of the old system of transporting so many more men than women became apparent. Between 40 and 50 the males formed 11·88 of the population, and the females 9·13; between 50 and 60, 10·01 to 5·82; between 60 and 70, 6·10 to 2·71; between 70 and 80, 2·39 to 1·06; between 80 and 90, 0·45 to 0·17; above 90, 0·07 to 0·02.

The *births* were as 1 in 100 of the population in 1827, 1 in 56 in 1837, 1 in 43 in 1847, 1 in 25 in 1857, 1 in 31 in 1878. In the year 1871 there were fewer births than in 1870. In 1879 the population was 110,000.

The *marriages* were few in the early convict times, owing to the paucity of women. There was a remarkable increase with the prosperity that flowed in with the gold, and a singular falling-off in later years. In 1827 these were as 1 in 158; in 1837, 1 in 112; in 1847, 1 in 92; in 1853, 1 in 44; in 1854, 1 in 48; in 1878, 1 in

TASMANIA.

POPULA-TION.

Few
children
at first.

100,000
people.

Sex.

Births.

Marriages.

TASMANIA.

68. The marriages in 1871 were 5·90 to 1,000; 6·61 in 1875; and 7·98 in 1878.

Deaths.

The *death rate* has been affected by several circumstances. For many years the population consisted of a great majority of men. Even in 1847 the women were but 13,623 to 37,750 men; in 1825 the sexes were 3,213 to 10,979. When the people were mainly adults, their mortality must have been necessarily different to that when the children exceeded the number of adults.

In 1827—keeping up the same years as before—the deaths were 1 in 68; in 1837, 1 in 71; in 1847, 1 in 61; 1853, gold year, 1 in 32; 1854, 1 in 33; 1878, 1 in 64. As children, more subject to disease, formed so large a proportion of the community in 1878, the more healthy condition arose from a higher tone of morals. The dissipation of 1853 and 1854 accounted for the extra mortality of those prosperous years.

Of the 1,700 dying in 1878, 992 were males, and 708 were females. According to the ratio of the sexes, the latter should have been at a higher number; the superior prudence of the women, doubtless, preserved their health the better.

In the Hobart Town Asylum, with 400 children, only two deaths occurred in three consecutive years. But while in England 16 per cent. die under 1 year, only 9·45 die in Tasmania; with 31 under 10 years, to 50 in Australia.

**Numbers live over 100 years.
Causes of death.**

A number of persons have lived over a hundred years of age. One died a few years ago, aged 109. Of lung disease in 1877, 5 males and 4 females died; heart disease, 80 and 35; cancer, 21 and 19; rheumatism, 4 and 1; diphtheria, 47 and 25; dysentery, 18 and 20; diarrhoea, 35 and 37; phthisis, 61 and 64; paralysis, 29 and 17; pneumonia, 62 and 28; apoplexy, 21 and 13; enteritis, 14 and 4; liver disease, 14 and 4; kidney disease, 8 and 5; accidents, &c., 66 and 31; stomach disease, 3 and 3. 1877, a fatal year; 1878, a good one.

ABORIGINES.**Aborigines.**

The *Natives*, or aborigines, of the island became reduced to one old woman. The whole of the race have now died. Half-castes live on isles in the Straits.

While in customs, superstitions, and ways of life they

were like the New Hollanders, yet in *physique* they were stouter, shorter, stronger, and darker in complexion. Their eyes were bright, their teeth were powerful, their hair was almost woolly, hanging in ringlets, and their noses were wide, flat, and without bridges.

TASMANIA.
Physique.

Armed only with a wooden spear and a short club, they engaged in the celebrated Black War with the whites. As the latter had, in many cases, acted cruelly to them, they sought revenge. After many had fallen in battle, or perished from fatigue and want, the rest were induced to surrender through Mr. George Robinson, the peacemaker.

War with
Europeans.

The remnant were taken to Flinders' Island after 1832. There, notwithstanding the care taken of them, they died off in such numbers, leaving scarcely any children, that the few who were left were removed to Oyster Cove, near Hobart Town.

Removal to
Flinders
Island.

Although some could read and write, and all had a slight knowledge of Christianity, their habits were intemperate whenever drink could be had ; and one by one dropped off, till neither an adult nor a child remained of the tribes of Tasmania.

End of the
race.

Education and Religion.

EDUCA-
TION.

The Government has taken much interest in the question of public instruction during the past thirty years. The changes in the system have corresponded with those described under Education in New South Wales. There is now compulsory instruction, under a penalty of 2*l.* from neglecting parents.

Compul-
sory.

In the 164 public schools under the Council of Education in 1878 there were 12,453 on the roll, and 6,032 in attendance, under 258 teachers. The cost averaged 2*l.* 13*s.* 1*½d.* per head. Examinations are held each year, when there is conferred the degree of Associate of Arts. Six exhibitions of 16*l.* each are awarded for four years, to enable youth to attend superior schools, as the High School, Hutchins' School, Church Grammar School, and Horton Wesley College. Girls are now to have similar advantages to those granted to boys.

Schools and
cost.

Exhibi-
tions.

Two scholarships are annually presented to successful students from public or private schools. These are of the value of 200*l.* each, held for four years, to enable the

Scholar-
ships.

TASMANIA. young men to attend a British university. This generous provision of Parliament was made in 1861.

RELIGION. Religion was provided for in olden times by the nomination of colonial chaplains. These were only of the Church of England; but ministers of the Roman Catholic, Presbyterian, and Wesleyan denominations afterwards received the state grant. There is now no parliamentary grant for religion, though compensation was made upon its public withdrawal.

Considering the small population of 100,000, ample provision is made for religious instruction.

Church census. The Church of England is by far the leading Protestant body, having, by the census, 60 ministers; while the Presbyterians have 9; the Free Presbyterians, 3; the Wesleyans, 14; the Independents, 11; and the Baptists, 3; the Roman Catholics have a bishop and 22 clergymen.

The census of 1870 gave the following return: Church of England, 53,047; Church of Scotland, 6,644; Free Presbyterians, 2,420; Wesleyans, 7,187; Independents, 3,931; Baptists, 931; Roman Catholics, 22,091; Jews, 232; other sects, 2,759.

Sunday schools. Tasmania is strong in societies for the benefit of humanity. Sunday schools are better attended, perhaps, than in any other colony.

AGRICULTURE.

When Van Diemen's Land, the colony contributed its farming produce to furnish bread to the settlers of Swan River, Adelaide, and Port Phillip, besides sending heavy shipments of flour to Sydney and New Zealand. As these colonies now largely support themselves, and some of them are very considerable exporters of the same produce, the fields of the island are not so remunerative as they were in former days.

Acreage per head. In 1818 the acreage was $1\frac{3}{4}$ per head; in 1830, $2\frac{1}{3}$; in 1840, $2\frac{2}{3}$; in 1851, $2\frac{1}{2}$; in 1853, $1\frac{3}{4}$; in 1860, $2\frac{1}{2}$; in 1865, $2\frac{2}{3}$; in 1878, $3\frac{1}{4}$ nearly.

Agriculturally, Tasmania occupies a position midway between New Zealand and Australia, being drier than the former and cooler than the latter.

Return of crops 1879. A return of March 31, 1879, gives the following particulars:—Acres in crop, 355,403; in wheat, 48,392; barley, 4,040; oats, 28,802; potatoes, 8,079; turnips,

1,666 ; onions, 70 ; carrots, 141 ; mangel wurzel, 1,074 ; TASMANIA.
hay, 33,933 ; pease, 4,700 ; hops, 630 ; green forage, 1,606 ; permanent artificial grasses, 116,972.

The produce per acre was 16·09 bushels for wheat ; Average per acre.
24·21, for barley ; 24·82, for oats ; 3·37 tons for potatoes ; 11·06 tons for mangel ; 1·19 for hay ; 1,271 lbs. for hops. The yield in March, 1873, was 17·6 for wheat ; Yield for 23, barley ; 25, oats ; 4·21, potatoes ; 1·44, hay. The 1873. wheap crop was 778,977 bushels ; and hops, 801,226 lbs. in 1879.

The prices through 1879 varied much according to locality. Thus, wheat was 5s. a bushel at Oatlands ; 5s. 6d. at Ross ; 4s. at Deloraine ; 5s. 6d. Hobart Town ; and 4s. 6d. at Launceston. Hay was 4l. 10s. a ton at Hamilton ; and 5l. in Hobart Town. Hops varied from 6d. at Hamilton, and 6d. at New Norfolk, to 2s. at Huon. Onions fetched 5l. per ton at Richmond, 7l. at Hobart, 12l. at Longford, and 16l. at Greenponds. Oats were 2s. 6d. at Port Sorell, 3s. 6d. at Oatlands, and 4s. at Campbell Town. Potatoes were as low as 3l. at Deloraine, 3l. 10s. at Launceston, 4l. at Evandale, and 6l. at Bothwell. Variation of prices.

Agricultural machines in 1879 included 97 steam engines, 114 cultivators, 121 clod-crushers, 84 mowing machines, 148 reaping, 14 sowing. Machines.

Recently the great sorrow of the Tasmanian farmer, especially on the northern side, was conveyed in these words of an official at Port Sorell : 'The loss of Victoria as a market for our surplus produce, and the almost prohibitory tariffs at other more distant ports, has also had a serious effect upon this coast.'

Formerly, Victoria was provided with flour from South Australia, and potatoes from Tasmania, but now grows sufficient of both articles. But in hops the island has no competitor. New Norfolk engaged 3,000 hop-pickers last season. For keeping apples, pears, and roots, the colony has decided pre-eminence. Butter and cheese are extensively produced in the Fingal district.

The Van Diemen's Land Company of London Shareholders had a grant of 350,000 acres in 1825. They had 150,000 acres at the Surrey Hills, 125,000 at Woolnorth, 50,000 at Emu Bay, 10,000 at Hampshire Hills, &c. The Circular Head was their great agricultural establishment. Their tenants have, generally speaking, farms of

Want of market.

Hop-growing.

Apple country.

Van
Diemen's
Land
Company.

TASMANIA.

Rich land
N.W.

Indian
settlement.

Good
farms.

Help for
roads.

PASTORAL.

Scrubs and
forest.

Not the
Australian
style.

the richest soil, though the land is commonly covered at first with heavy timber.

It is the density of the scrub, or the thickness of trees, which is the difficulty with Tasmanian farmers. On the north-west, where the earth is rich, the timber is removed with great difficulty. But when that productive district is opened up by the railway from Launceston to the Mersey, no place in the colonies will present greater attractions for country settlement. To such a country Capt. Crawford directs the attention of his Indian brother officers, especially to Castra.

The Huon River has wonderful depth of soil on its banks, with trees 200 ft. to the first branch. Many Germans are now located on land once purchased by Lady Franklin there. The Denison and Sheffield Plains are highly recommended. Near Ringarooma, to the north-east, is a rich basaltic earth, which is also to be found on the Dorset Table-land.

The charms of residing on a farm in such a delightful country counterbalances in no small degree the difficulties of a good market. Mr. Crawford lately reported 90,500 acres of first-class land open for agricultural selection, 395,600 of second-class, and 874,499 of third-rate kind. One-third of the land fund is appropriated to road-making, the Government giving 6d. to every 1s. raised by the settlers.

Pastoral.

The colony was never a pastoral one. There are open plains, and some open forest, but of limited extent. The prevalence of impracticable scrub, dense woods, barren rocks, and lofty mountains, is much against stock keeping. It is no small difficulty to gather in a mob of cattle, or collect a scattered flock of sheep.

The best places were selected by the early grantees; whose farms, though now enclosed, are still the depasturing lands of the island. Wool-growers on the northern plains have been very successful, and live in comfortable style.

There is but little of the Australian system of squatting. The Crown lands are not extensively leased. In 1842 there were but 39,000 acres so rented, yielding 658*l.* a year to the state. In 1853, owing to the pastoral dis-

orders in Victoria from the gold fever, 2,314,414 acres were taken up, at a rental of 29,569*l.* But the amount fell off to 1,369,771 in 1866.

In 1878 there were 1,249,992 acres leased on the main land, and 752,880 on the islands around. The former paid an average rent of a penny halfpenny, while the inferior grass of the islands was rated at one farthing an acre.

Between 1836 and 1841 Tasmania exported 442,270*l.* worth of stock to Port Phillip and Adelaide. Such good fortune has not occurred since. In 1878 the island exported to Victoria, in stock, 9,857*l.*, and imported 17,357*l.*

While the sheep-master of Australia fears the wild dog, the Tasmanian dreads the night attacks of the marsupial tiger and devil. These animals find shelter in the rocky, scrubby country. They are only a plague to sheep, being too cowardly to attack a dog.

The live stock in 1879 stood as follows :—24,107 horses, 126,276 horned cattle, 1,838,831 sheep, 39,595 pigs. Fine stock is raised on the island.

To show the small area available for free pasturage on Crown lands, the report of the Government gives only 280 horses, 5,719 cattle, and 163,066 sheep on land not being private property.

In 1816 the island had 34 horses, 1,956 cattle, and 20,501 sheep on the northern side. An estimate taken the following year of the other side showed 188 horses, 9,868 cattle, and 76,991 sheep. In 1829 there were more herds of cattle than in 1871, and thirty years ago there were more sheep. The pastoral circumstances of Tasmania are not, therefore, like those of the continent of Australia.

The export of wool in 1822 was only 147,840 pounds, valued at 3,917*l.*, or 5*d.* per pound. That in 1877 was 8,016,396 pounds, at 522,885*l.* or about 15*d.* per pound.

In 1831 the yield produced 57,725*l.*; in 1841, 254,853*l.*; in 1851, 249,953*l.*; 1861, 326,413*l.*; in 1864, 415,891*l.*, at 18*d.* per pound; 1878, 479,165*l.* for 7,511,662 pounds.

Mining.

Tasmania may hereafter develop this interest to a greater extent than is now apparent, though not a little

Land leased.

Stock export.

Live stock.

Not a pastoral land.

Wool export.

TASMANIA.

Search for gold.

Coal leases.

Gold licenses.

Gold returns.

Coal mines.

Anxiety has been exhibited by the Government to have a paying gold-field, and a good export of coal.

The mining regulations are liberal. A large reward has been offered for the finding of a thoroughly working gold-field. Fingal, Brandy Creek or Beaconsfield, Back Cr., Mt. Arthur, Mt. Meredith, and Pieman's R. have gold.

Leases are granted of from 40 to 320 acres of coal ground, and of from 20 to 80 acres of other mineral land. The length of the selection cannot be more than four times the width. While the rental for coal-bearing land is but half-a-crown an acre, that for other mineral areas is five shillings. The lease is for twenty-one years, though an extension of fourteen years may be subsequently obtained. In 1877 were 13 leases on 1,840 acres.

Gold is rapidly developing; licenses are regularly issued for its working, but at the high rate of 2*l.* a year. The gold districts are as beautiful as healthful. The cost of surveys of auriferous land varies from 25*s.* for less than two acres to 5*l.* 13*s.* for fifty acres.

Quartz claims may be from 100 to 440 yards long, and from 80 to 100 broad.

The leading working claims are of quartz, and in the Fingal district. There were in 1877, 62 leases granted for 663 acres. Of miners' rights, 799 were issued, and 26 business licenses. The fees realised 3,143*l.* : with 91 men on the alluvial diggings, 2,400*l.* of gold was produced. The yield from quartz-crushing was 12 dwts. 3 gr. per ton; and 263 men raised 20,889*l.* worth. The value of the gold in 1878 was 100,000*l.* In February 1879, 270 tons quartz yielded 1,160 ounces.

Coal ought, one would imagine, to be of more commercial importance than it has been. But the fields are difficult of access. The bituminous product of the east coast cannot be made so available as is wished, owing to the approach being simply an open roadstead. The Mersey coal is easier reached, while that of Jerusalem and other inland fields is too far away from a port.

In olden times the thick beds of anthracite at Port Arthur were wrought by convicts; the coal was then sold in Hobart Town at about 8*s.* a ton. The yield for the year 1878 was 12,311 tons. Of that quantity, 5,500 came from New Town, Hobart Town; 1820, Oatlands; 1,500, Tarleton; 1,336, Don; 1,225, Jerusalem; 150, Adventure Bay.

Iron promises to be an important source of wealth. Mr. Gould calculated that 700,000 tons of hematite were easily obtainable at Ilfracombe, on the north coast. The ore there and by the Tamar cannot pay with labour high. A valuable lode of the same crops out in other parts also. The iron of the Severn and Forth will be of future value. Good specular iron may be wrought in the Dial range. Nodules of pyrites are gathered on the islands of D'Entrecasteaux Channel. Red and brown hematite is found with peroxide near the Blythe, and on the Hellyer. Mount Ramsay bismuth lode is 40 feet wide.

TASMANIA.

Iron very promising.

Tin in rich lodes and sand is known at Mount Bischoff and Mount Heemskirk, N.W., where the wash dirt is thirty feet thick. Antimony is also seen there. Some tin nuggets are several hundredweight each. Silver lead is known at the Forth in a seam one foot thick. Manganese and zinc are at Penguin creek, to the north-west. In that creek, also, were specimens of copper. Plumbago is seen on the Norfolk plains, at the Den, Spring Boy, and Mount Bischoff. The tin exports for 1878 came to 1,801 tons of ore, 4,146 of smelted, valued at 316,311.

Tin workings.

Mining areas of eighty acres can be leased for twenty-one years with the right of extension for fourteen more. The Flinders Island topazes are valuable.

Exports
316,311.

Mining leases.

Trade and Manufactures.

TRADE.

The ports of Hobart Town and Launceston are nearly equal in their trade; for, though the former is the capital, the latter is nearer Australia. As it was many years before a good road connected the two, the trade of the north side was conducted independently of that of the south. The commercial jealousy of the two ports is seen in the distinct returns of their imports and exports in the yearly Government blue-book.

Two ports.

While the inward tonnage of Hobart Town in 1878 was 85,573, that of Launceston was 54,534. Of colonial vessels, there cleared out 270 of 76,489 tons, at Hobart Town, and 394 of 69,812, at Launceston. The tonnage inwards of the colony was 159,063 in 693 ships; that outwards was 156,791, in 688 ships.

Tonnage.

The shipping trade has had some changes since 1822, when the tonnage was 16,987. Just before the gold era,

TASMANIA. in 1850, it was 104,017. But three years after it rose to 198,612. The dream of wealth was not destined to be realised. In 1865 the tonnage fell below what it had been before the gold discovery. In 1872, it was 102,379.

Imports. The imports and exports tell a similar tale.

The imports of 1822 came to 22,214*l.* In 1851 they were 641,609*l.* Under the inspiration of auriferous times, they ascended to 2,604,680*l.* in 1854. After that they gradually declined; being 1,068,411*l.* in 1860; 762,375*l.* in 1865; 778,087*l.* in 1871; and but 1,324,812*l.* in 1878.

Exports. The exports for 1824 were valued at 14,500*l.* In 1839 they were 875,165*l.*; in 1851, 665,790*l.*; in 1853, 1,756,316*l.*; in 1860, 962,170*l.*; in 1865, 880,965*l.*; in 1872, 910,633*l.*; yet the exports mounted during the year 1878 to 1,315,695*l.* The whaling trade brought 135,210*l.* in 1837; but in 1878 the oil yielded only 17,577*l.*

Bank deposits. In like manner the banks held coin to the amount of 1,340,352*l.* in the good year of 1853; 280,503*l.* in 1860; 174,357*l.* in 1865; but rose to 257,135*l.* in June 1873. The bank deposits on Jan. 1, 1879, were 1,873,003*l.*

Decline. As the population has varied but little for the last dozen years, it may be presumed that the circumstances of the colonists are not so good as they were. The loss of the expenditure by the Commissariat has also affected trade. The arrest of transportation in 1853 reduced the Home Government outlay in the island from 309,138*l.* to 60,953*l.* in a few years.

The colony is now inferior many ways to Victoria, which was indebted to the little island for its first flocks and its first inhabitants.

Of the Launceston imports of 606,738*l.*, those from Victoria amounted to 440,113*l.*; but, of the exports, 179,112*l.* went to Melbourne, and 162,610*l.* to Sydney. Hobart Town then imported goods worth 273,707*l.* from Melbourne, 62,979*l.* from Sydney, and 20,680*l.* from New Zealand; exporting 138,647*l.* to Sydney, and 130,547*l.* to Melbourne.

The following items of export in 1877 will show the relation of these to the north and south sides of the islands.

	Hobart Town £	Launceston £
Flour.	722	2,471
Jams.	100,069	501
Green fruit	44,001	2,718

	Hobart Town	Launceston	TASMANIA.
	£	£	
Hides	2,193	4,451	
Hops	36,457	2,486	
Oil	33,547	305	
Timber	53,612	19,237	
Gold	1,898	25,061	
Wool	299,514	223,371	

But Tasmania, if not so rich as it hoped to be, especially since the Victorian tariff has almost closed the door to its produce, is comfortable in circumstances, and in the enjoyment of more solid peace and real happiness than it was in the prosperous times twenty years ago.

The five banks had, in Dec. 1878, assets of 2,101,932*l.*. The Hobart Town and Launceston Savings' Banks had assets of 343,704*l.* at the beginning of 1879. The submarine telegraph to Victoria is landed at Cape Otway.

To encourage local manufactures, the Government has adopted the Victorian system of bonuses and a protective tariff. Corn sacks and wool sacks, salt, beet sugar, and woollen stuffs have their manufactures encouraged by bonuses up to 2,000*l.* In 1878 were 3,218 works and trades.

Railways and good roads promote the trade of the colony. The rail from Launceston to Deloraine has been open some years. That from Deloraine to the Mersey is proceeding; and another, 120 miles long, now unites the northern and southern capitals, but is not successful. The island has splendid high roads.

The TARIFF of the island is rather high, and is largely protective. On goods not named below, an *ad valorem* duty of ten per cent. is levied.

Spirits are charged 12*s.* per gallon, and wine 2*s.*, though a dozen pint bottles pass for 3*s.* Malt liquors are at 6*d.* per gallon, or 1*s.* for a dozen pints. Methylated spirits pay 3*s.* per gallon.

Sugar is 6*s.* per cwt.; tea, 6*d.* per lb.; coffee and cocoa, 3*d.* and 4*d.*; spices, 4*d.*; hops, hams, bacon, cheese, butter, candles, pepper, mustard, sago, macaroni, &c., at 2*d.*; soap, glue, and starch, 1*d.*; dried fruits, 1½*d.*; rice, pearl and Scotch barley, rape seed, dried fish, and paints, ½*d.*; sulphur, alum, soda crystals, dry paint, ¼*d.*

Manufactured gold, 2*s.*; silver at 1*s.* an ounce; ironmongery, brooms, handles of forks, &c., and lamps, 5*s.* per cwt.; nails, iron boilers, and pots, 2*s.* 6*d.* per cwt.;

Still good times.

Banking.

Bonus for manufacturers.

Railways.

Tariff.

Duties.

TASMANIA.

Duties.

cutlery, 2d. per lb.; tobacco, 3s. per lb.; cigars and snuff, 5s.; tobacco for sheep-wash, 3d.

Carriages on two wheels are rated at 5*l.*, and, on four wheels, 10*l.*; pianos, 5*l.*; organs, 10*l.*; harmoniums, 2*l.* 10*s.*

Apparel, boots and shoes, hats, furs, drapery, drugs, woollens, brushes, &c., 5s. per cubic foot; harness and stationery, 4s.; blankets, blacking, carpets, confectionery, oilman's stores, 3s.; biscuits, cornflour, furniture, wicker, 2s.; paper, 1*s.* 6*d.*; watches, toys, pickled fish, 1*s.*; boards, cutlery, matting, 6*d.*; earthenware, glassware, 9*d.*

Gunpowder, 4*d.* per lb.; blasting powder, 1*d.*; twine, 1*d.*; oatmeal, $\frac{1}{2}$ *d.*; spices, 4*d.*; shot, 1*d.* Sewing machines, 10*s.* per cwt.; molasses, 3*s.* 6*d.*; lead, 2*s.* 6*d.*; agricultural machines and tools, 2*s.* 6*d.*; galvanised iron, 2*s.* 6*d.*; rope, 1*s.* 6*d.*; iron fencing, 9*d.*; chalk and cement, 9*d.*; salt, 1*s.*; iron castings, 6*d.* Fresh meat, 1*s.* 6*d.* per 100 lbs.; tallow, 3*s.*; flour, 1*s.*; wheat and other grains, 10*d.* Coals, 1*s.* per ton. Oils, 1*s.* per gallon; turpentine and varnish, 1*s.*; vinegar and cider, 4*d.* Sances, 3*s.* per dozen pints; pickles, 2*s.* Timber, 8*s.* per 50 cubic feet. Bags, from $\frac{1}{2}$ *d.* to 2*l* $\frac{1}{2}$ *d.*; bagging, 100*d.* for 1,000 yards. Sheep, 1*s.* 6*d.* each; cattle, 30*s.* Buckets, 3*s.* per dozen. Malt, 1*s.* per bushel. A property tax is now required.

Among the articles exempted are manures, trees, horses, pigs, poultry, hay, grasses, canvas, boats, anchors, ice, printed books and maps, ink and type, railway plant, steam-engines, hides, iron bridges, works of art, ores of metals, unmanufactured steel and tin, slates, and specimens of natural history.

LAND LAWS.

Land Laws and Immigration.

Old system.

The old land system of the colony was similar to that in New South Wales, and grants were made of areas proportionate to the capital one brought into the country, or the number of convicts the party felt willing to employ. Sales were afterwards effected, though the upset prices varied from 5*s.* in 1831 to 12*s.* in 1838, and then

20s. an acre in 1842. Of 16,778,000 acres in the island, only 4,138,945 had been granted or sold up to 1879. 44,933 were sold in 1878. The area leased was 2,002,872 acres ; averaging 1d. per acre.

TASMANIA.

Three-fourths unsold.

Although the island is of such limited extent, but a very small amount of it was actually utilised. When, then, other colonies attracted population by the liberality of land regulations, it became necessary for Tasmania to present more tempting offers for settlers. There were no more square-mile grants to the new-comer with 500l., as in 1828, but there were cash purchasers at land sales.

Land selection.

In 1863 the principle of selection was introduced. A man could select 320 acres, and by paying 4s. an acre cash, he could have eight years in which to pay the balance of the pound, though one-fifth of the purchase was added to the amount by way of interest. But, though some 13,000,000 of acres were open to selection, it was admitted that not half thereof was fair land.

At present, some parts are open at 5s. an acre on twelve years' rental. Agricultural land is 1l. an acre, in addition to survey fees, for an area of 320 acres. The new credit system requires a thirtieth cash, and the balance distributed in fourteen annual payments. In that case, one-third of the purchase-money is added for interest. The lease is transferable with Government consent. Pastoral land may be had on a fourteen years' lease, at a rental determined by the character of the country.

Credit system over fourteen years

To encourage immigration, land orders were given to those paying their own passage out. For those over fifteen years of age the land grant was equal to 18l. ; for those under, 9l. Cabin or intermediate passengers could claim 30 acres for themselves, 10 for their wives, and 5 for each child ; but they must reside five years upon the land before legal title could be given. A man who took out a wife and four children, paying steerage passage, could secure land to the value of 90l.

Pastoral leases.

Land orders to immigrants.

Bounty tickets, obtained in the colony, can bring out a person with his wife, and all children under twelve, on the payment of 15l. only. If leaving the colony before four years, repayment of the balance of passage money is required. Single females are able to go thereto on payment of 5l. in Europe ; men pay 10l. Children

Bounty tickets.

TASMANIA.

over twelve are reckoned as adults. Only 7 bounty emigrants were sent out in 1877.

Wages.

Wages are not quite equal to those prevailing in the Australian colonies. All classes of labour are less paid. For this reason it is, perhaps, that the emigrants from the island have exceeded the immigrants. Most men regard the cash question before that of mere health and comfort of life.

Labour required.

Yet labour is much required there, although the returns for agricultural produce will not permit the payment of the same rates as Victoria can afford. A man with a family, looking for a healthy and pleasant home, with wages far in advance of those in Britain, would do better by going to Tasmania than to many other places.

HINTS.**Healthy home.****Hints to Intending Emigrants to Tasmania.**

The advantages of the island, in point of salubrity of climate and beauty of scenery, are not to be despised. The maintenance of health, and the enjoyment of a fine country, are esteemed by many above the mere accumulation of a fortune.

As a home, undoubtedly it has unsurpassed claims. The editor of the 'Australasian' justly remarked: 'In computing the sources of personal happiness and of national progress, one can scarcely attach too much value to the possession of a climate so favourable to infant life, and to the growth and development of healthy childhood and of vigorous youth, as that of Tasmania.' Dr. E. S. Hall adds: 'Emigrants from Europe with the consumptive tendency, if not too far gone, soon have the germs of this disease eradicated, if they observe the necessary laws of health.'

Though the population have neither the energy nor the refinement to be found in Victoria, there is a vigorous heartiness, a genuine simplicity, and a kind hospitality among them, rendering them honest friends and good neighbours. If not, then, the place in which the most money can be made, it is pre-eminently the one in which a little money can be effectually enjoyed.

Working men may do better for themselves by crossing Bass's Straits, and going to Melbourne, Sydney, or Brisbane; but they may not have the pleasure to be gained on the banks of the Derwent and Tamar. Professional

Good for consumption.**Land of enjoyment.**

men cannot have much scope for their talents; and business men may, possibly, carry their wares and their talents to a more profitable market.

As none of the Australian colonies possess such water power in mountain streams as the southern island, a person might find in some of those romantic glens and lovely valleys not only a pleasant home, but a position in which to establish a manufacture. The Government, having commenced the bonus system to encourage local works, would be ready to render the enterprise of an immigrant as successful as possible.

The colony has got the colonial reputation of being slow, from the old leaven of convictism remaining. But that would be a reason for the migration of some more energetic spirits thither. In few places is there such a safe hoarding of savings, and so great an indisposition to embark in doubtful speculations. There are not there the activities of Victoria and Queensland, nor the same desires to grow rich in a hurry. But, with the quiet resolution of living and dying in so charming a locality, there is not the impetus, nor apparent necessity, to make a fortune and spend it in England.

But if the colony be slow, it may be pronounced safe. Though not exactly the one to court the dashing, fiery spirits among men, nor the gay, excitement-seeking among women, it may nevertheless afford the opportunity of giving a family a prosperous future, while it certainly yields them an enjoyable present.

The social difficulties once existing, when it was a convict settlement, have been gradually but surely disappearing since transportation thither ceased in 1853. In fact, a family man may find that, in taking his children to Tasmania, he removes them from many temptations prevailing in a supposed higher condition of civilisation. Both Hobart Town and Launceston are provided with schools and churches, mechanics' institutes, and public libraries, with organisations for the decrease of evil and the promotion of good.

The agriculturist will find, especially on the north side of the island, land of such marvellous fertility that he will have no difficulty in making a living. The purchaser of a thousand acres, at a pound an acre, can demand from the Government the expenditure of one

TASMANIA.

Not openings for all classes.

Water power.

Bonus for works.

Social aspects.

Slow and sure.

Moral status.

Wonderful fertility in north.

Advantages to

TASMANIA.

men of
moderate
capital.

half his purchase-money in the making of roads and bridges near his estate.

To a person of means, on the look-out for a cheap and agreeable place of residence, with occupation for his leisure, and a real retreat from the annoyances, hypocrisies, and unhealthy stimuli of old-world civilisation, there is an especial attraction in this quiet, but lovely and salubrious island. Whether residing on a garden plot near town, or on a farm in the country, he would realise a tranquillity, and yet a zest of life, not easily procured elsewhere. The gold, iron and tin mines present a splendid opening for British capital, and the employment of mining experience and engineering skill.

Invalids'
retreat.

It is for this reason that Tasmania has been, above all the colonies, the chosen retreat of Indian officers and civilians. The increase of health and peace, which these have gained there, would be the happy lot of others who choose to emigrate for the same object to the fern-tree land.

Particulars of emigration can be obtained from C. D. Buckler, Esq., Emigrant and Colonists' Aid Corporation, Limited, 25 Queen Anne's Gate, Westminster, S.W.

NEW ZEALAND.

Discovery and History.

To Tasman, the Dutch navigator, is due the honour of first discovery. After leaving Van Diemen's Land, in December 1642, he steered to the eastward, and fell in with the west coast of New Zealand on January 4, 1643. He made a rough survey from lat. 34° to 43° S. Landing men for water near what is now known as Nelson, the Maories killed several of the sailors. The captain, therefore, named the locality the Bay of Murderers, since called Massacre Bay. The extreme north-western point of the island received the appellation of Cape Maria Van Diemen, after the daughter of the Dutch Governor of Java.

The Frenchman Marion, who had a contest with the Tasmanians in 1770, came into collision with the New Zealanders, who cooked and ate him, as well as sixteen of his crew. The year after, the wild tribe dined off ten Englishmen belonging to Captain Furneaux's ship.

Captain Cook first circumnavigated the Islands in his three visits, and accurately surveyed the principal bays. It was on October 16, 1769, that he saw the first land at Poverty Bay. Greatly interested at all times with native races, Cook was much struck with the noble appearance of the Maories, and the superior display of native civilisation. He evidenced his desire for their good, in his gifts of the pig and the potato.

The earliest white settlers of the country were sailors, and some runaway convicts from New South Wales and Van Diemen's Land. The beneficial influence of such intercourse was not obvious in the character of the cannibals. Our countrymen formed marriage alliances sometimes with the tatooed tribes, and purchased farms on very easy terms. Whalers frequented the ports of Cook's Strait and the Bay of Islands.

French and
English
sailors
eaten.

Captain
Cook, 1769.

HISTORY.
First
settlers of
New
Zealand.

**NEW
ZEALAND.**

**Massacre of
the Boyd.**

**Missions to
the
Maoris.**

**Relapse of
tribes.**

**Missions
helped colo-
nisation.**

**New Zea-
land a de-
pendency of
New South
Wales.**

**Baron de
Thierry.**

**United
chiefs of
New
Zealand.**

**English
Consul,
1837.**

The heathenism and cannibalism of the Maories drew forth the Christian charity of the Rev. W. Marsden, chaplain of New South Wales, who attempted to establish a Mission among them. The fearful massacre, in 1809, of seventy persons who belonged to the ship 'Boyd,' delayed the execution of the scheme for five years. Missionaries of the Wesleyan and Roman Catholic communions followed those of the Church of England, and the islanders forsook their idols, while their ovens were defiled no more with human flesh.

The subsequent relapse of some tribes from Christianity, in the adoption of pagan rites, has been owing to their hatred of the *pakeha*, or white man, and not to religious convictions.

Missionary successes paved the way for true colonisation. The pastors of native flocks have been charged with obstructing the work of British settlement. Though decidedly objecting to the presence of vicious and disorderly countrymen among the coloured converts, the missionaries undoubtedly promoted the establishment of English rule in New Zealand.

The country had been appropriated, on parchment, as early as 1787 as a dependency of New South Wales, by virtue of Captain Cook having taken possession of it. And yet, in 1814, any jurisdiction of the kind was repudiated by the Government. In 1820 an eccentric Frenchman, Baron de Thierry, purchased from two of the chiefs the barren right of sovereignty over New Zealand. His Majesty, however, was the subject of ridicule from his quondam subjects, while his limited resources but poorly supplied his own table.

In 1830, the tribes that had always hitherto preserved most jealously their independent existence made an attempt at a confederation. The King of England, William IV., warmly approved of the object; and, while disclaiming any right of interference, sent out a national flag to the 'United Chiefs of New Zealand.'

British Government was much required there, owing to the reckless conduct of many of the European residents. A consul, or Government resident, Mr. Busby, was established at the Bay of Islands in 1837. Much disorder arose from the irregular purchase of land, as from continual wars the rightful owner of the soil was

often changing. Thousands of acres were sold for nominal prices, and the bargain was as easily repudiated as made.

The earliest friend of New Zealand colonisation was Earl Durham. He organised a company in 1825 for buying land at the Thames river. In conjunction with Messrs. Baring, Hutt, Petre, &c., he formed the *New Zealand Association* in 1837. This was the forerunner of the *New Zealand Company*.

Two difficulties opposed themselves, the right of sovereignty and the right of soil. The Association bought land of a chief who happened to visit England. Others contended that no chief could dispose of land which belonged, by tribal usage, to the whole community. There was danger in interference; for, as Bishop Selwyn has said, ‘Nothing is more easy than to extinguish a native title; nothing will be more difficult than to extinguish a native war.’

When, in 1840, it was found that the French Government had despatched a colony to Akaroa, on the South Island, the English Ministry sent off a quick-sailing frigate, which succeeded in formally taking possession of that island just three days before the French man-of-war landed the emigrants on Banks’ Peninsula. But there were very few natives existing on South Island.

Colonel Wakefield, the representative of the New Zealand Company, made his first purchase of land in Cook’s Straits, in 1839. The Deed of Conveyance was signed by fifteen chiefs, and was a very doubtful title. But nearly one hundred times the amount of the purchase was obtained by sale to emigrants.

A vast territory was secured at Wellington for 320*l.* worth of goods. Among these were 100 blankets, 2 tierces of tobacco, 48 iron pots, 2 cases of soap, 15 guns, 25 kegs of powder, 1 cask of ball cartridge, 100 tomahawks, 1 case of pipes, 2 dozen spades, 1,200 fish-hooks, 12 bullet moulds, 20 jackets, 20 trousers, 60 red night-caps, 200 yards of calico, 20 dozen handkerchiefs, 2 dozen slates, 200 pencils, 10 dozen looking glasses, 10 dozen pocket knives, 10 dozen scissors, 1 dozen shoes, 1 dozen umbrellas, 1 dozen hats, 2 lbs. beads, 100 yards ribbon, 1 dozen shaving boxes and brushes, 10 dozen combs, 1 gross of Jews harps, 1 dozen razors, 6 dozen hoes, 20 muskets, 1 dozen sticks of sealing wax, etc.

NEW ZEALAND.

Difficulties
of land
buyers.

New
Zealand
Associa-
tion, 1837.

Bishop
Selwyn’s
opinion.

English
three days
before the
French.

New
Zealand
company,
1839.

Payment
for land.

**NEW
ZEALAND.**

Land claims require British interference. Two opposite views.

Treaty of Waitangi, 1840.

Land to be sold to the Government only.

Colony established, May 21, 1840.

Land difficulties.

Payment for land.

The English Government now felt compelled to interfere, and sent Captain Hobson to New Zealand. Already there existed claims of Englishmen for land, these amounting to far more than the total acreage of the country. For the protection of British subjects, and the prevention of war, some negotiation was necessary.

A very difficult question had to be settled. Lord John Russell, in 1840, declared 'The British Statute-book has in the present century, in three distinct enactments, declared that New Zealand is not a part of the British dominions.' On the other hand, it was contended by Mr. Buller, that 'God gave the earth to man to use—not to particular races.'

Captain Hobson, with the help of the missionaries, gathered a large number of native chiefs together. Not less than 312 chiefs signed the Treaty of Waitangi, in the early part of 1840, during a progress through the country from north to south.

This treaty stipulated that the sovereignty of the island should belong to the Queen, but the land to the natives. As they expressed it, 'She was to have the shadow and they the substance.' Land was to be sold to the Government only, and afterwards disposed of by the State to immigrants.

On May 21, 1840, Captain Hobson proclaimed New Zealand an English dependency, and exhibited his own authority to act as Lieutenant-Governor thereof, under the superior orders of the Governor of New South Wales. A year afterwards, the country was declared independent of the parent Australian Colony.

Then came the investigation and settlement of land claims. The New Zealand Company, the actual founders of this British colony, put in a claim for twenty millions of acres. The Crown compromised, by the bestowal of four times as many acres as the company had expended pounds in their enterprise, and gave compensation to native claimants whose rights had been overlooked, as the Wellington blocks had been bought of the wrong tribe.

In this way the thousands of persons who had paid for land were enabled at last to get possession of farms, and the Colony became securely established in 1841. But for the land sold by Government at 20s. an acre the

Maories received but 2*s.* in the first instance, and afterwards 5*s.*

NEW
ZEALAND.

Difficulties still beset the early career of the settlement. State expenditure was so much in excess of revenue, that paper assignments had to be issued; and yet, in the first sale of land at Auckland, in 1843, twenty-six acres realised 11,000*l.* The New Zealand Company were, also, so encumbered with debt, that they were obliged to resign their charter, after having founded Wellington, Taranaki, and Nelson districts, having one-fourth of the North Island and one-fifth of the South one.

First Auck-
land land
sale.

End of New
Zealand
Company.

The Treaty of Waitangi did not prove a complete success. The natives were dissatisfied, and designing parties increased their distrust. The indiscreet speeches of some members in the British Parliament excited the fears of the Maories, as statesmen had advocated the right of the Crown to seize all lands not actually cultivated by the tribes.

A quarrel and massacre took place at the Wairau in 1843, arising from the survey of contested land by the Company. Other disputes respecting land brought on collisions. Cases occurred, like that of the Waitara, where the Government required certain lands which the natives were unwilling to sell, and bloodshedding followed.

Maori land
disputes.

More serious troubles came with the question of sovereignty. It was said that the signature of some chiefs could not bind all, and that many signed under false interpretation. Others, as the chief Potatau of Waikato, had from the first refused to sign from Scriptural scruples, quoting from Moses, 'From among thy *brethren* shalt thou set one king over thee. Thou mayst not set a stranger over thee which is not thy brother.'

Sovereignty
question.

Honi Heki, of the Bay of Islands, boldly cut down the English flagstaff in 1844, and open war was the result. Tomata Waka took the side of the Queen. Both men were Christians, and conducted themselves as chivalrous and Christian warriors. Governor Grey arrived soon after the war began, and by prudence and clemency restored peace.

Bible ver-
sus English
rule.

Honi Heki
rebelled in
1844.

The King movement was an effort of the chiefs to obtain by union a better recognition of their rights from the Crown of England, and to insist upon the faithful

King
movement.

**NEW
ZEALAND.**

Native difficulties at an end.

Settlement of Auckland and Wellington.

Otago by Free Church, 1848.

Otago Crown Colony, 1852.

Canterbury Association, 1849.

Crown Colony, 1852.

French settlement in Canterbury.

One central Legislation.

**GEO-
GRAPHY.**

fulfilment of certain conditions of the Treaty of Waitangi so long neglected by the Government. The Maories, too, have felt themselves ignored in the new constitution granted to the Colony.

The more recent disputes and conflicts with the natives need not be described here. They involved the country in much expense and anxiety, and seriously retarded its progress. Firmness and justice have, however, greatly removed any further cause for alarm. The Maories, unhappily, are rapidly decreasing in number; and the white population are already eleven times as many as the coloured.

Auckland was chiefly settled from New South Wales, and Wellington by settlers from Great Britain.

The Free Church of Scotland sought, in 1848, to establish a New Zealand settlement, upon restrictive religious views. Nearly half a million acres were taken up near Port Otago. The land was to be sold at 2*l.* an acre; one-eighth of the proceeds was spent on schools and churches, one-eighth for emigration, and the rest on the purchase from the New Zealand Company, etc. But the difficulty of cash payments to the British Government, according to their charter, obliged the Company to yield in 1852, when Otago became a Crown Colony.

In 1849 a Church of England Association attempted to form the model Canterbury Colony. Two millions of acres were bought in the South Island. The land was sold at 3*l.* an acre. The company devoted a third of the proceeds of land sales to emigration purposes, and one-third for schools and churches; the balance went to pay for the purchase, and for road-making. Inability to pay a few thousands owing to the British treasury obliged the Company to surrender their territory, in December 1852; since which time Canterbury has been a Crown Colony.

The French Company that had settled Banks' Peninsula failed about the same time, and their lands were united to Canterbury province.

The union of the Islands under one head and one central Legislature has been favourable to their progress.

Geography and Climate.

New Zealand consists of two large islands, and several smaller ones, of which Stewart, to the south, is the

principal. The country is above 1,000 miles in length, but of little breadth. Its total area is 100,000 square miles, or 64,000,000 acres. It is, therefore, rather larger than Victoria, but one-seventh the size of Queensland. The coast line is 3,000 miles.

The North Island is less compact than the South one, having projecting peninsulas, while the other is almost an elongated rhomboid in shape. Cook's Strait divides them. The North Island is 500 miles long, and the South Island is a little longer.

Stewart Island, 50 miles in length, is separated from the south coast of the south Island by Fouveaux Strait. The Auckland group are south of Stewart, in lat. 51° S., and the Macquarie Isles are further southward.

Mountains.

North Island has a few small ranges; but the South Island has an elevated backbone from north to south, near the west coast, in addition to much elevated land in the central part.

The Rua Hine range, from the centre of North Island, runs southward to Cook's Strait, having two branches, the Tararua and Remutaka. A coast range extends along the Strait to the north-east. Coromandel range is eastward of Auckland. These ranges are not lofty.

But the North Island is crowded with volcanic peaks and elevated craters. Edgecombe, by the Bay of Plenty, is very high, and Ruapehu, near the centre of the island, is nearly 10,000 ft. Tongariro crater, not far from Ruapehu, is 6,500 ft. Egmont, in Taranaki, near the sea, is 8,300 ft.

The South Island has many lofty peaks in the Southern Alps. Mount Cook is 13,200 ft., having extensive glaciers on its sides. Tyndall, to the north-east of Cook, is nearly as lofty. Spencer is 10,000 ft.; Kaikaro, 9,300 ft.; and Skiddaw and Franklin are 8,000 ft. each.

The Alps are not so elevated at the southern extremity. Arthur, Murchison, Lyell, Ben Nevis, and Brunner are alpine peaks in Nelson.

The Wakefield range is north of Canterbury; which province possesses the fine Malvern Hills; Hutt, 6,800 ft.; and Torlesse, 6,160 ft. The Canterbury Plains rise nearly 5,000 ft. at their western or alpine end.

NEW ZEALAND.

Area,
100,000
square
miles.

North and
South
islands each
500 miles
long.

Other
islands.

Mountains.

North
Island
ranges.

Volcanoes.

South
Island
mountains.

Cook
13,200 ft.

Canterbury
Plains.

**NEW
ZEALAND.**
South
Island no
craters.

Westland County includes some of the loftiest of the Alps. Otago has an elevated district around its western lakes, with mountains 8,000 ft. and more. Earnslaw is 10,000 ft. Ben Nevis is near lake Wakatipu. Umbrella range and Dunstan range are in Otago. The South Island has no volcanic hills.

Lakes.

North Is-
land crater
lakes.

North Island lakes are almost all ancient craters filled with water. Taupo is thirty-six by twenty miles. Rotorua is seven across, and Waikari is thirty round. The volcanic centre abounds in warm lakes and sulphurous lakes. Rotomahana, a hot water basin, is surrounded by geysers, boiling mud ponds, and steaming waterfalls. Wairarapa lake is near Port Nicholson.

South Is-
land lakes.

South Island has several very large and deep mountain lakes, some of which are thought to have been formed by the ice of glaciers. Ellesmere or Waihora, of Canterbury, may be called a sea lake. Coleridge is seven miles wide; Brunner is near Hokitika westward.

On the borders of Canterbury and Otago, and in central Otago, are many noble lakes—as Hawea, Wanaka, and Wakatipu. In South Island the lakes are more numerous than in the North one. Some of the alpine lakes have been estimated at nearly a thousand feet deep.

Rivers.

Rivers.

The streams in the North Island, and on the west side of the South Island, are numerous, though generally short.

The Waikato from Lake Taupo is 250 miles long; the Waipa is its chief tributary. The Thames, further east, runs nearly parallel to it into the Frith of Thames. The Wanganui, Hutt, and Wairarapa are in the Wellington Province. The Mokau is in Taranaki.

The South Island has some fine rivers on the eastern side. The Wairau falls into Cloudy Bay. The Avon, Kakaia, Ashby, Ashburton, Selwyn, and Rangitata are in Canterbury. The Waitaki is between Canterbury and Otago. The Taieri and the Clutha or Molyneux are in Otago.

West coast
South Is-
land, small
rivers.

The West coast has only small streams. The Buller is in Nelson. The Grey is the southern border of Nelson.

The Hokitika is in Westland. Jacob's river and New river are in Southland.

NEW
ZEALAND.

Bays.

North Island has three large bays: Gulf of Hauraki, Bay of Plenty, and Hawke's Bay. The Bay of Islands is to the north-east. Hokianga is west of it. Manukau Harbour leads up to Auckland from the west, and Waitemata from the east. The Frith of Thames is east of Auckland Harbour. Parengaranga Harbour is near North Cape.

Mercury Bay and Tauranga Harbour are in the Bay of Plenty. Poverty Bay is north of the eastern Hawke's Bay. Wangaroa and Kawia Harbours are north of Taranaki. Palliser Bay and Port Nicholson are south of Wellington Province.

Blind Bay, Massacre Bay, Cloudy Bay, and Port Underwood open into Cook's Strait on the south side. Akaroa Harbour is in Banks' Peninsula of Canterbury, and Pegasus Bay is north of it. Port Cooper is the chief harbour of Canterbury. Otago Harbour leads up to Dunedin. Bluff Harbour is the port of Southland.

The west coast of South Island has scarcely any ports. The settlements are reached from roadsteads. Martin's Bay, Milfordhaven, and Preservation Inlet are in Western Otago. Paterson Inlet and Port William are in Stewart Island. Jackson Bay is in West Otago.

Roadsteads
on west
coast.

Capes.

The Reinga, North Cape, and Maria Van Diemen are northern extremities. Egmont is the western head land. Runaway and East Cape are east of the Bay of Plenty. Kidnapper Point is south of Hawke's Bay. Cape Palliser is the south-eastern end of North Island.

Cape Campbell is opposite to Wellington. Farewell is the north-western end of South Island. Foulwind, south of Farewell, is on the west coast. The Bluff is in Southland. Akaroa Head is on Banks' Peninsula. Cape Saunders is south of Otago Harbour. South Cape is the southernmost point of Stewart Isle.

Islands.

Norfolk and Phillip Islands to the north belong to

Islands.

**NEW
ZEALAND.**

New South Wales. The Three Kings lie off the Cape Maria Van Diemen. Barrier is at the entrance of Hauraki Gulf; and the smoking White Island in the Bay of Plenty. Kapiti, or Entry, and D'Urville are in Cook's Strait. The Chatham Isles are about 300 miles east of South Island. The Snares are in 48° S.

Divisions.

Change of names.

North Island, or *Eahei Nomauwe*, was once called New Ulster. South Island, or *Tavai Poenamoo*, the Green-stone Isle, has been known by two other appellations,—the Middle Island and New Munster. Stewart Island was then called the Southern Island, or New Leinster.

Nine provinces and one county.

There are now nine provinces and 63 counties.

In North Island, Auckland is the northern, Taranaki the western, Hawke's Bay the eastern, and Wellington the southern.

In South Island, Nelson is to the north-west, Marlborough the north-east, Canterbury the east, Otago the south, and Westland the west.

New provinces.

Hawke's Bay was once a part of Wellington; Marlborough, of Nelson; and Westland, of Canterbury. Southland, once detached from Otago, is now re-united to it.

Areas of provinces.

Auckland Province contains 18,500,000 acres; Taranaki, 2,399,000; Hawke's Bay, 2,816,000; Wellington, 7,400,000; Nelson, 6,700,000; Marlborough, 3,000,000; Canterbury, 8,690,000; and Otago, with Southland 15,438,240. All have been united since 1876.

*Towns.**Towns.*

In Auckland Province, Auckland city is on the bank of the Waitemata in lat. 36° 50', long. 174° 50', containing 31,000 people. Kororarika or Russell is on the Bay of Islands. Hokianga is on the north-west coast, with Waimate near. Shortland and Grahamstown are at the Thames diggings. The Pensioner settlements are near Auckland. Kupanga is on Coromandel Peninsula.

Napier is the capital of Hawke's Bay.

Nelson town is at the head of Blind Bay, and Collingwood on Massacre Bay. Greymouth, on the west coast of South Island, has gold and coal.

Picton and Blenheim are in Marlborough. Gisborne is in Poverty Bay. Campbelltown is the Bluff of Southland.

Divisions.

Christchurch, the capital of Canterbury, is eight miles from the port Lyttleton, and Akaroa is the French port of Banks' Peninsula. Kaiapoi is on the Courtenay.

Dunedin, capital of Otago, 9 m. from port Chalmers. Invercargill, Southland, is 20 miles from Bluff port.

The distances of the principal places are here given :—

Akaroa to Lyttleton	30 miles
Albertland to Auckland	50 "
Arrow River to Dunedin	210 "
Ashburton to Christchurch	55 "
Auckland to New Plymouth	140 "
Cambridge to Auckland	104 "
Clyde or Dunstan to Dunedin	150 "
Collingwood to Nelson	76 "
Coromandel to Auckland	30 "
Drury to Auckland	22 "
Dunedin to Christchurch	200 "
Grahamstown to Auckland	35 "
Greymouth to Hokitika	25 "
Hokianga to Auckland	180 "
Hokitika to Nelson	240 "
Hokitika to Christchurch	150 "
Hutt to Wellington	9 "
Howick to Auckland	14 "
Kingston to Dunedin	250 "
Manchester to Wellington	75 "
Molyneux to Dunedin	75 "
Mount Ida to Dunedin	90 "
Napier to Wellington	200 "
New Plymouth to Auckland	120 "
Oamaru to Dunedin	80 "
Onehunga to Auckland	6 "
Oxford to Christchurch	40 "
Queenstown to Dunedin	220 "
Palmerston to Dunedin	35 "
Riverton to Invercargill	26 "
Russell to Auckland	140 "
Shortland to Auckland	50 "
Taieri to Dunedin	6 "
Tauranga to Auckland	150 "
Timaru to Christchurch	100 "
Westport to Nelson	140 "
Wellington to Nelson	150 "
Wanganui to Wellington	130 "

Distances
of towns.

The CLIMATE of a country a thousand miles in length, with lofty mountains and broad plains, cannot be expected to be uniform. While one portion is in the latitude of Sydney, and another is fourteen degrees nearer the Pole, the temperature is far from being equal. The south-

CLIMATE.
Differs
much as
to places.

NEW
ZEALAND.

western coast, exposed to stormy sea breezes, must have a higher amount of humidity than the country sheltered by the lofty Southern Alps. The warm sun and balmy airs of the North are not to be experienced among the glaciers of Mount Cook. Captain Drury speaks of eight atmospheric districts in the colony.

Hot winds.

The heat in the summer months is so tempered by the sea-breezes, as never to be so unpleasant as in corresponding latitudes on the continent of Australia. The fiery breath of the latter is unknown in the flax land, unless it be in the dry summer blasts of Otago and Canterbury interior. The vast marshes, broad lakes, dense forests, and many ranges of the warmer North Island tend to ameliorate the fervour of the sun. Hawke's Bay has the best climate.

Mild in
North
Island.

The South Island, less timbered and with fewer marshes and lakes, has its summer temperature modified by the cold currents from the Alps of 12,000 feet, not less than by the frigid airs from antarctic icebergs. Stewart Isle and the storm-beaten islets beyond have no sultry seasons to sigh over.

South Is-
land much
cooler.

Cold is almost unknown in the North Island, except during the prevalence of south-westerly gales at Wellington. During the wet weather, so common on the western shore, shivering sensations are not uncommon. Snow lies for weeks together upon the plateaux of Otago, and substantial ice is trodden by the men of Southland. Even the plains of Canterbury are covered with snow for two or three months of winter. In both islands most of the lofty peaks are never free from white caps.

Climate of
the Canter-
bury Plains.

Canterbury, taken as a province, experiences the greatest vicissitudes of temperature. The winds which pass over its extensive plains are very cold in winter, and hot in summer. The prevailing breezes, coming from the west, must pass over the lofty, snowclad Alps; and, though, reasonably enough, they are cold in winter, it was not so apparent why they were so hot in summer. But as the hot winds of Australia are felt in Tasmania, it has been held that they might also visit New Zealand. It is said that the warm airs rise when passing over the cool surface of the ocean, but descend when brought over the warmer earth. It is certain that the sirocco raises whirlwinds of dust in Canterbury, as on the plains

Ice and
snow there.

of Australia. Otago, and even Southland, have visits from these heated western breezes.

Archdeacon Paul refers to the Canterbury Plains as having 'a mixture of the climate of the south of France and the Shetland Isles.' On Christmas Day, 1872, the thermometer was 92°·3 in the shade at Christchurch of Canterbury. The cold of winter, 1876, was 12°·6.

Nelson only suffers in a lesser degree, being better favoured with sea breezes. Hawke's Bay, on the contrary, being sheltered from these cool winds by the Ruahine Mountains, is a hotter province in summer, while its limestone rocks reflect the heat still more.

The Northern Island, being so much more wooded than the South, has, upon the whole, a more equable climate. The elevated, volcanic district in the centre, in spite of its numerous hot springs, is not without its frost and snow. New Plymouth, though with a seaboard, is not favoured as Auckland town with water on both sides, and has a wider range of temperature.

Observations made at Bealey, in lat. 43°, on the slope of the Alps, at an elevation of 2,104 feet, point out, as might be expected, a lower winter thermometer than at places several degrees more to the south. Hokitika, on the coast, not far from the latitude of Bealey, has a much milder winter and a cooler summer. Invercargill, though 11° farther south than Auckland, has even hotter days in summer. In 1877 it was 157° in the sun.

The official returns for 1871 will afford the reader the opportunity of comparing the temperature of certain towns, though learning little by that means of the climate of the several provinces. The thermometrical readings were as follows:—

NEW
ZEALAND.

Of Nelson
and
Hawke's
Bay.

North Is-
land more
equable
than South
Island.

Bealey and
Hokitika.

Invercar-
gill and hot
summers.

		Mean	Maximum	Minimum	Range
Auckland	.	58·5	83·2	34·0	49·2
New Plymouth	.	56·3	82·6	29·0	53·6
Napier	.	58·0	86·0	34·0	52·0
Wellington	.	54·6	78·5	33·9	44·6
Nelson	.	55·1	84·0	28·0	56·0
Christchurch	.	52·0	86·9	24·9	62·0
Bealey	.	46·8	79·2	17·0	62·2
Hokitika	.	53·1	74·9	29·2	47·7
Dunedin	.	50·3	85·0	30·0	55·0
Southland (in 46°)	.	50·0	86·0	21·0	65·0

Tempera-
ture of
different
towns.

**NEW
ZEALAND.**

The mean temperature of Auckland, after 13 years' observations, is ascertained to be 60·3°; Wellington, from 10 years, 55·7°; Nelson, 16 years, 55°; Christchurch, 11 years, 55·1°; Dunedin, 15 years, 50·7°; Marlborough, 5 years, 53·4°; Hokitika, 10 years, 54°.

In 1876 Auckland averaged 60·0; Napier, 59·4; Nelson, 55·9; Hokitika, 54·0; Dunedin, 51·5. The mean of the North Island was 58·2; and of the South Island, 54·2.

Rain.

The temperature, therefore, of New Zealand generally may be pronounced decidedly agreeable. But the humidity of some parts is unpleasant, and on the west coast of the South Island is obstructive to agriculture. The east coast of both Islands is by no means troubled with an excess of moisture, having a less quantity than the Australian shores. Hokitika had 136 in. fall, 1877.

**Relative
moisture.**

The Alps shield the plains of Canterbury from the clouds, as the Ruahine hills do for Hawke's Bay District. Nelson is more sheltered than New Plymouth. The Bay of Islands has far less rain than Auckland, while Wanganui has more than its neighbour Wellington.

**Westland
wet.**

Westland is not only wet, but foggy. The coast lower down, toward the south-west corner, has excessive rainfall. Most of this rain comes in the winter, though summer is by no means dry. There fell 13 in. at Pakawau, Golden Bay, in 1872, during 12 hours.

Snow days.

The snow days in 1877 were 3 in Wellington; 0 in Nelson; 4 in Christchurch; 0 in Hokitika; 7 in Dunedin; 4 in Invercargill; and 22 in Bealey. In June, 1873, the snow was 15 inches thick for 5 days in Southland.

**Rainfall in
the year.**

1875 gave the following results of rainfall:—

Auckland	.	.	51·310	inches in 200 days
Taranaki	.	.	66·960	" 169 "
Napier	.	.	38·260	" 144 "
Wellington	.	.	65·827	" 176 "
Nelson	.	.	69·070	" 106 "
Christchurch	.	.	32·310	" 135 "
Hokitika	.	.	130·790	" 186 "
Dunedin	.	.	42·631	" 158 "
Invercargill	.	.	44·180	" 201 "

For 1877 the official figures stood thus:—

Auckland	.	.	40·37	inches in 203 days
Taranaki	.	.	52	" 173 "

West side
five times
as wet as
east

Napier	33·450 inches in 108 days
Wellington	51·92 " 151 "
Nelson	48·52 " 85 "
Christchurch	23·72 " 117 "
Hokitika	136·66 " 214 "
Dunedin	37·46 " 134 "
Invercargill	43·15 " 222 "

NEW
ZEALAND.

The winds are boisterous enough off the western and southern shores, and the tempestuous seas of those neighbourhoods are thoroughly appreciated by voyagers. Cook's Strait and Fouveaux Strait have an unenviable notoriety for blasts. The course of the winds, as elsewhere in the Southern Hemisphere, is with the sun, or contrary to the hands of a watch. By far the most common wind is west-south-west. In Cook's Strait, owing to the land, there are but two directions in which the winds blow, north-west and south-east.

In Port Cooper, of Canterbury, the summer sea breezes are from the north-east in the day, and the light ones from the south-west at night. In winter the prevalent ones are the south-east at sea and the south-west on land. The north-west is the hot or cold plains' wind.

On the west coast of the North Island it is fine from November to April. South-east winds are experienced often in June and July. North-west winds are twice as common as south-east, and south-west twice as many as the rest. Wellington, or Port Nicholson, is much troubled with boisterous weather. Landing at western ports is sometimes a source of real danger, from the heavy surf rolling in after rough breezes outside.

To show the windy character of some parts, it may be stated that in 1876 the number of calm days in the year was 89 for Queenstown, 97 for Dunedin, 45 for Bealey, 86 for Wanganui, 0 for Auckland, 13 for Christchurch, 1 for Wellington, and no calm day for Invercargill, Nelson, Taranaki and Hokitika.

In Auckland the winds with a westerly direction blew 161 days in the year 1876, and with easterly, 119. In Napier they were 109 to 151; in Wellington, 198 to 166; Christchurch, 191 to 168; Dunedin, 137 to 107; Hokitika, 134 to 178; Southland, 208 to 138.

The barometer is very variable in some parts of the coast of New Zealand, as off Tierra del Fuego. It may go down very low without an observable change of Barometer action.

Course of wind in Southern Hemisphere with the sun.

Change of winds.

West prevalent.

**NEW
ZEALAND.**

weather. Rain and storm may come with a high glass, and the finest days with a low one. The barometer rises on the west coast of North Island when the wind is from the south or east, and falls with the north and north-west. At Hawke's Bay it rises with the north-east, south-east and south, but falls with north and west.

**Thunder
days.**

Electrical phenomena vary much as to place. The thunder clouds of Cook's Strait run from south-east to north-west. The thunder days of 1877 were but 7 at Taranaki, 14 at Auckland, 15 at Hokitika, 15 at Invercargill, 12 at Bealey, 8 at Wellington, and 5 at Napier. Fogs were 25 Hokitika, 21 Bealey, 11 Auckland, 7 Dunedin, 3 Wellington.

**Earth-
quakes in
Cook's
Strait.**

Earthquakes are thought to have a climatic influence. In Cook's Strait they occur, perhaps, a dozen times a year. Though troublesome, and even terrifying, they are comparatively harmless. In 1848, however, houses reeled at Wellington and fell, while for months more or less disturbance was experienced. Earthquakes occurred during 1877 in 45 different places. In 1877 shocks were felt at Wellington on twelve days, at Wanganui on four, and at Christchurch and Dunedin on one day. On July 19, 1876, all parts trembled.

**Earth-
quake days.**

On the whole it may be safely asserted that, for the British constitution, a more bracing climate than this colony cannot be had. Without the bitter cold of Canadian winter, or its parching heat of summer, and unlike Australia, in sweltering heat and frequent drought, New Zealand has many attractions for the farmer in its weather, though the traveller may object to its frequent showers and blustering winds. Delicate frames would find, perhaps, the brighter skies of Australia more congenial; but for rosy, healthy children, the land of ferns is first in the world. While the death-rate for England is 22, that of New Zealand in 1878 was stated to be 11 in the 1,000, or double the health value.

**Often wet
and windy.**

**Place for
healthy
children.**

GEOLOGY.**Geology.**

The *Geology* of New Zealand is as interesting as that of any country in the world.

**Difference
in the two
islands.**

The two Islands, though separated by the narrow Cook's Strait, are singularly different in many respects. The North is essentially volcanic, and the South is

crystalline and primary. The North has elevated volcanic cones, and the South has long ranges of lofty mountains of slate and granite. The centre of the North Island is a mass of craters, boiling springs, lava, and sulphur. The central parts of the South Island have hardly a trace of igneous action.

The geological difference gives a different landscape to the traveller. In the basalt of Banks' Peninsula and Otago Harbour only will he behold in the South the romantic scenery so often presented in the volcanic country of the North. The beauty of the western coast of the North Island is strikingly brought out in the elevations of lava hills. The solemn grandeur of the primitive rocks is made apparent to the voyager by the Alps of the South.

There are, nevertheless, points of resemblance between the two. Both contain beds of true coal, and of tertiary or Bovey coal. Both have gold and copper workings. But while the gold of the North is almost confined to the valley of the Thames, that of the South is seen in every province; being found in the north, east, south, west, and middle.

Perhaps it may still with truth be said that, though New Zealand is altogether only about the size of Great Britain, and has been known to the Europeans so many years, not much of the area has been sufficiently explored to determine its geology accurately.

The *Primary* formations are to be seen in the south and west of the North Island, forming mainly the Province of Wellington. They are far from being productive there. In the valley of the Thames and on the Coromandel Peninsula they are fertile in metals. Metamorphic rocks are chiefly seen in south Silurian beds.

In South Island the primary constitute the main country of Nelson, Marlborough, Otago, and Westland county. The mighty Alps, rising 13,000 ft. and running through the Island, as another Andes, beside the western sea, are formed of slates, sandstones, and limestone of Silurian ages, often very highly metamorphosed. There are also many mountains of granite there.

The strong stony bulwark of the south-west coast is of the slates and granites. The intermediate land from the Alps to the Otago eastern bays is of the ancient

Effect on
the land-
scape.

Similarity
of geology.

Primary
rocks of
North
Island.

Primary of
South
Island

**NEW
ZEALAND.**

Alps
formerly
much
higher.

Greenstone
or jade.

Secondary
rocks.

Coal.
Brown
coal.

Good coal
west of
South
Island.

Auckland
coal.

Tertiary
rocks.

strata. Along the Cook's Strait the same rocks are traced as down by Foveaux Strait and the stormy south.

Mr. Haast, while speaking of the continuous anticlinal arches and synclinal troughs of the Alps, remarked the tops, as Mount Cook, to be the synclinal. He, therefore, concluded that the ranges were higher before the great denudation or disintegration made the change. But other evidences are present to indicate a previous elevation of the main country itself, raising the Alps some thousands of feet above their existing level. The valuable jade, or greenstone, is found in blocks at Greenstone Lake and other parts towards the southwest of the South Island. This nephrite occasionally permeates slate in veins. Granite is more S. of S. isle.

Secondary formations are detected in the carboniferous strata, said by several geologists to be jurassic or triassic. Ammonites and Belemnites are gathered from the south head of the Waikato, and near Kawhia. The same rocks are noticed at the New river of Southland, at Mount Ida, and Waiau river. There are remains of deposits in the north-west of South Island.

The **coal** is cretaceous, jurassic, triassic, liassic and palaeozoic. Immense beds of lignite, or brown coal, exist in the treeless interior of Canterbury and Otago. There are seams 18, 25 and 27 feet thick.

Good coal occupies a hundred square miles by the Waikato, and a great space in Western Nelson. As cannel, it is seen on the headwaters of the Ashburton in Canterbury. As a seam of above a dozen feet in thickness, the mineral occurs at Grey River and the Buller, on the west coast of South Island. That to the south of Preservation inlet was used by whaling blacksmiths many years ago, and is true coal like the Grey.

A field is being worked at Kawa Kawa, Bay of Islands. Auckland, also, possesses fuel in the rocks of the Frith of Thames, at Drury, at Parenga, at Whangaroa, as well as on the Waikato. The Buller field has 100 million tons, and Kaitangata in Otago as much.

Tertiary formations are widely spread in the North Island, though largely in the shape of volcanic matter. In that form it is seldom observed in the South Island, unless near the coast of Otago and Canterbury.

South Island has, in various parts, repeatedly descended

for a tertiary covering. The fertile Oamaru district of Otago rests upon a tertiary limestone. Other farming land at Timaru and Caversham is indebted to that age. Syenitic granite débris rests in south-west Otago. A drift, forty miles by ten, stretches from the Buller to Lake Brunner. Eocene fossils are 9 per cent. of existing kinds.

Septarian boulders, of limestone in clay, strew the beach north of Dunedin. Lacustrine remains are found north of the Clutha; while, in the basin of Invercargill, they cover an area of thirty by twelve miles.

The celebrated Canterbury Plains, reaching from the sea to the foot of the Alps, are of glacial production in the pliocene period. Already thirty terraces have been counted in the ascent of the plains. A vast number of years must have passed while glaciers, from twenty to eighty miles in length, carried down those moraines, now recognised as horizontal terraces.

At that time the island must then have had the appearance Greenland now has. For the country to have had such enormous glaciers, as we detect from the moraines, the elevation must have been considerable. The longest glacier of the New Zealand Alps at present is Tasman, from Mount Cook, and it is eighteen miles in extent. Large moraines are to be seen near Hokitika and other parts of the west coast. The glaciers are after bordered by luxuriant and even semi-tropical vegetation. Wakatipu lake of Otago, 1,400 ft. deep, is the effect of glacial erosion, says Capt. Hutton.

The Canterbury covering may be called a pleistocene alluvial derived from the glacial action. Floods still bring down much débris on those plains. The pleistocene of Timaru rests on a tufa. The dolerite of Mount Horrible is recent tertiary. The pleistocene shore of Taranaki is 150 feet above the sea; and the Timaru silt is 686 feet. Pleistocene glaciers carried down the gold.

In the North Island there is a cretaceous and a yellow argillaceous deposit at the Bay of Islands, a horizontal limestone at Tauranga Bay, a sandstone at Auckland, a calcareous rock at Kawia, a boulder formation south of Hokianga, a cretaceous cliff at Wanganui, and the débris of clay slate at the Hutt valley. The two islands were separated before the pleistocene period.

As volcanic tufa, as conglomerate, as cinder heaps, as

Lacustrine deposits.

Canterbury Plains from glacial action.

Glaciers and moraines.

Pleistocene.

Various tertiary deposits.

NEW
ZEALAND.

**Volcanic
conglomer-
ate.**

**Great
volcanic
character-
istics.**

Tufa beds.

**Signs of
volcanic
action**

**Active
craters.**

lava streams, the North Island is full of tertiary exponents. The *Reinga*, or land of souls, is of a volcanic conglomerate, as are the banks of the Waikato and other rivers.

The Volcanic characteristics of the North Island give it quite an Icelandic appearance in all but the cold. It has not, however, such powerfully active and demonstrative craters now in operation, though sufficient to illustrate a comparatively recent period of terrific violence.

The whole Island—or certainly one half-of it, must have been in a convulsive movement at the same time. But instead of one era of volcanic force, there were successive displays of this subterranean fury, as modern deposits of ash and lava rest upon more ancient beds of the same material. Floods of rain, ever accompanying eruptions, swept onward and around the discharged tufaceous matter.

The traveller may walk for hundreds of miles, and scarcely for an hour be off the track of this fiery shower.

The extreme north of the Island indicates that earthquakes and tempests may have thus carried off many leagues of volcanic country from the length of New Zealand. Similar indications are noticed at the projecting eastern point of Taranaki. Extensive denudations of volcanic deposits have taken place elsewhere.

Lakes in the old crater of Otauia, Bay of Islands, still bubble up white mud and gas. White Island and Whale Island are now smoking solfataras. White Island is said to have 100,000 tons of sulphur easy of access. Boiling springs, sulphur lakes, mud ponds, and geysers, are as abundant as in Iceland. Rangitoto, near Auckland, has but recently cooled from its discharges.

But Tongariro, in the centre of the Island, rearing up its head 6,500 feet, continues to pour forth its streams of lava, or its showers of ash, from three craters out of the five. When the earthquake of 1854 was shaking the rocks of Wellington, a side of one of these heaving craters fell down. Ruapahu, 10,000 feet high, and twenty-five miles round, was not long since as noisy and destructive as its neighbour Tongariro.

Egmont, of Taranaki, with its summit of snow, conceals its vast and once turbulent crater from view. But around, for many miles, lies the witness of its former

deeds. Roto-rua is the centre of a volcanic desolation. For hundreds of square miles, sterility is as heartless as in a Sahara.

Lake Taupo, an ancient crater, has lofty cliffs of trachyte; and, though silent awhile itself, reflects upon its waters the fires of Tongariro. The island has a great number of lakes whose lava sides tell the old story of fire. Mt. Tanakira, or Devil's Thumb, thought once a volcanic cone, is only reconst clay.

Nothing in Iceland can compete with the wonders of Rotomahana, with its extensive siliceous deposits, the cascade of boiling water, the smoking sulphurous lakes, yawning caves, and gaping chasms.

Auckland city, within a dozen miles, has sixty cones and craters, from 300 to 900 feet high. The harbour guardian, Rangitoto, may well be called the 'Sky of Blood' by the natives. The craters there have been ages quiet.

The South Island, though with no actual volcano, and very few extinct ones, can exhibit its scars from these throes of nature. Tufa may be seen at Oamaru, and also in Nelson Province, Westland, and to the north of Invercargill. Auckland and Chatham is. are volcanic.

Basalt and greenstone, so common in the North, can be traced among the Alps of the South. Banks' Peninsula of Canterbury is a chaotic mass of these rocks. The trappean harbour of Otago is sixteen miles in length.

According to Dr. Hector, the square miles of formation in New Zealand are as follows :—

Fluviatile . . .	8,447	north	6,286	south	=	14,733
Marine Tertiary . . .	13,898	"	4,201	"	=	18,099
Secondary . . .	2,390	"	2,110	"	=	4,500
Palæozoic . . .	5,437	"	20,231	"	=	25,068
Schistose . . .			15,308	"	=	15,308
Granite . . .			5,978	"	=	5,978
Volcanic . . .	14,864	"	1,150	"	=	18,714
	<hr/>		<hr/>		<hr/>	
	44,736		55,264			100,000

Earthquakes, as may readily be supposed, are no more absent from New Zealand than from the countries of Vesuvius and Hecla. A great elevation in Cook's Strait took place during the shocks of 1823. In 1848, 200 square miles were raised. The west coast, however, has been steadily sinking, especially on the South Island.

NEW ZEALAND.

Volcanic
desert.

Lake
Taupo
quiet.

Iceland
charac-
teristics.

Craters
round
Auckland

Tufa in
South
Island.

Basalt.

Change of
coast level.

**NEW
ZEALAND.****Earth-
quakes.****Fossils.****The Moa.****New Zea-
land and
Australia
once united.****NATURAL
HISTORY.****Ancient
fauna.****Bats.****Native rat.**

Wellington and Wanganui have been most troubled with earthquakes, especially in 1848 and 1855, when the earth opened and walls cracked. In 1871 there were eleven days of earthquake shocks. No other province had more than three days of such disquietude.

While fossils peculiar to formations distinguish New Zealand as other places, it is interesting to observe that the old Saurians, as the *Plesiosaurus*, and *Ichthyosaurus*, have their representatives, these being found at the Waipara. *Ostreae*, one foot long, are found in the Kawia limestone. The Wanganui sands contain shells of which one-tenth are extinct; and those of Patea, one quarter.

But the *Moa* is the attraction to men of science. As the *Dinornis*, and broader skulled *Palapteryx*, the wingless Moas are discovered in alluvium, and sometimes with the bones of the dog and existing species of birds. In one case, the remains of a cannibal feast of ancient days contained the charred bones of the Moa and man. Eggs, ten inches by seven, have been unearthed. The islands once contained a gigantic bird of prey. The fossil forms of large birds of flight have lately been found. Evidence exists of an ancient race of man.

As the bones of the *Dinornis* have been discovered in Queensland, where the *Plesiosaurus* has been also found, another evidence is afforded of Australia and New Zealand having once been united. Norfolk Island was formerly connected with New Zealand.

Natural History.

Whilst Australia presents us with the very earliest forms of mammalian life, and with low types of organisation, the Islands of New Zealand—representing as they do the remnants of a former continental area now submerged beneath the ocean—offer for the study of the biologist a still more ancient fauna. The only *terrestrial* mammals strictly indigenous to New Zealand appear to be a small frugivorous rat, called ‘*kiore maori*’ by the natives, and two species of bat. In former times the indigenous rat was largely used as an article of food by the natives, but it has of late years become nearly extinct, except in a few places of the interior of the Northern island, in consequence of the

extermination carried on against it by the introduced European rat.

At the period of Captain Cook's first visit to New Zealand there existed a small species of wild dog, resembling a jackal, and of a dirty yellowish colour. This animal has disappeared within the last twenty years. Although bearing certain affinities to the wild dog or 'dingo' of the Australian continent, it is doubtful if this animal can be regarded as indigenous, having probably been introduced at some period antecedent to the discoveries of Captain Cook.

The marine mammalia inhabiting the shores of New Zealand and the adjacent groups of the Auckland and Chatham Islands, include several species of seals, amongst which are the 'sea lion' (*Phoca jubata*), the 'sea leopard' (*Stenorhynchus leptonyx*), the 'fur seal,' or 'sea bear' (*Arctocephalus ursinus*), and the bottle-nosed seal (*Phoca proboscidea* of Péron). One species of porpoise is met with on the coast, the *Delphinus Zelandiae*, or New Zealand dolphin.

Seals.

Porpoise.

Great wingless birds.

Formerly, and probably down to as recent a period as the last two or three hundred years, there existed in these islands a remarkable group of gigantic wingless birds, allied to the cassowaries, and varying in size from that of a bustard to a stature far exceeding that of the ostrich. It is now about thirty years ago since the first bones of the 'moa' (the name applied by the natives generally to all the species of these great extinct birds) were discovered in an alluvial deposit on the East coast. Since that period the semi-fossilised, and, in some instances, comparatively recent remains of no less than ten species of the 'moa' have been found, together with fragments (and, in one instance, a perfect example) of their eggs. All these have been carefully examined and described by Professor Owen, who resolves them into two genera, *Dinornis* and *Palapteryx*. In the former genus the Professor includes eight species, and in the latter two. In their general aspect, characters, and habits it is supposed that these birds resembled much more nearly the cassowary tribe than they did the ostrich or the emu. To convey some idea of the stature of these birds, as ascertained from their skeletons, it may be mentioned that the largest

Many species of 'moa.'

species of the 'moa,' the *Dinornis maximus*, stood, when erect, ten feet six inches in height, and the *D. dro-maeoides* and the *P. elephantopus* both exceeded five feet; whilst the *Dinornis struthioïdes* attained the altitude of seven feet. Still more recently, Dr. Haast, of Canterbury, New Zealand, who has carefully studied the remains of these extinct birds, has divided them into four genera, viz., *Dinornis*, *Meionornis*, *Palapteryx*, and *Euryapteryx*, comprising altogether no less than twelve well-established species. In the Glenmark deposits, in the South Island, Dr. Haast has also discovered the bones of a huge diurnal bird of prey, which he has described under the name of *Harpagornis moorei*. These huge birds might yet have been extant, had it not been for the arrival of the present aboriginal inhabitants on the shores of New Zealand, by whom they were gradually exterminated.

Nearly allied in structure to these gigantic creatures, there still lingers in New Zealand a remarkable genus of wingless birds called *Apteryx*, of which four species are described. Their bodies are covered with long, loose, hair-like feathers, and their legs and feet are remarkably powerful, and armed with sharp claws for digging in the earth. The beak is long and slender, having the nostrils nearly at the extremity of the upper mandible. This they introduce into the ground in search of grubs and worms. Like many of the New Zealand terrestrial birds, the *Apteryx* is nocturnal in its habits, concealing itself during the day beneath the extensive beds of fern. Its nest is a burrow in the earth, in which it lays one egg of enormous size compared with that of the bird itself, which is not larger than a domestic fowl.

Amongst the other extraordinary birds that yet exist in New Zealand, constituting the remains of an almost extinct fauna, is the *Notornis mantelli*, a huge handsomely plumaged rail, about the size of a goose, and having very small wings, a single living example of which was taken several years ago by some sealers in the neighbourhood of Dusky Bay. This bird has much the aspect of a gigantic water-hen. Both its beak and feet are large and strong, and of a bright red colour; the general plumage is glossy bronze-green, with the head and breast purple, and the tail-coverts snow-white.

The
apteryx.

Notornis.

There are also other rails belonging to several distinct genera, the most interesting of which are the wood-hens (*Ocydromus*), a group of brevipennate rails quite peculiar to the New Zealand fauna.

NEW
ZEALAND.

Amongst the strange ornithological forms that occur in the Southern islands is a very remarkable bird of the owl tribe, called the 'wekau' by the natives, and the 'laughing owl' by the settlers. It is larger than the ordinary screech-owl, spotted with chesnut and black, and has long legs and small green feet. The head is very small, with the beak somewhat resembling that of a hawk. It is a ground-feeder, and nocturnal in its habits. It is now almost extinct. Its scientific name is *Sceloglaux albifacies*.

The laughing owl.

The extraordinary *Strigops habroptilus*, or 'Kakapo' of the natives, is a large, greenish-coloured nocturnal parrot having certain owl-like characters, which was formerly abundant in New Zealand, but is now extinct everywhere except on the south-west coast of the South island, where it dwells in inaccessible ravines, living in communities in holes under rocks, and is never seen during the day. At night it comes out to feed, nibbling the grass and roots like a rabbit. A singular group of parrots, belonging to the genus *Nestor* (also remnants of an ancient fauna), are peculiar to New Zealand and the adjacent islands; of four species described, one is already extinct, and two of the others are extremely rare; whilst the remaining one is still comparatively common, and is often domesticated by the natives, who style it 'kaka.' Its chief peculiarities consist in its having the upper mandible of the beak very long and hooked, and in the brown, grey, and orange colouration of the plumage.

Nocturnal parrot.

There are two singular birds, denizens of the forests of the Northern island, well worthy of notice. These are the *Neomorpha gouldi*, or 'huia' of the natives; and the *Prosthemadera Novæ Zeelandiæ*, or 'tui,' the 'Parson bird,' of the settlers. The first of these birds is about the size of a small crow, with glossy black plumage, the tail feathers being tipped with white. The beak of the male is straight and pointed, whilst that of the female is long, slender, and curved into the arc of a circle. The tail feathers are much valued by the natives for

The Nestor.

The 'Huia' and 'Tui.'

**NEW
ZEALAND.**

**The
'Parson-
bird.'**

**Fruit-
pigeon.**

**Cormorants
and shags.**

Reptiles.

No snakes.

**The
'tuatara.'**

**One species
of frog.**

Fish.

purposes of ornament, and are carefully preserved in finely-carved wooden boxes. The 'Parson-bird' derives its clerical appellation from the circumstance of its having two little tufts of white feathers under the throat, contrasting strongly with the shining black colour of the rest of its plumage. The 'tui' is a very lively and amusing bird in captivity, and rivals even the mocking-bird in its powers of imitation. It is the size of a blackbird.

The fruit-eating pigeon (*Carpophaga Novæ Zealandiæ*) is a fine bird, of handsome plumage, and is much esteemed for the table.

Amongst aquatic birds some nine or ten kinds of ducks are enumerated as inhabiting New Zealand, and some of them are delicious eating. There are several species of cormorants, and the crested shag (*Phalacrocorax punctatus*) is a very beautiful bird. Dr. Buller, in his 'History of the Birds of New Zealand,' enumerates one hundred and forty-five species as already described; the greater portion of which, together with many of the genera, are peculiar to the country.

New Zealand presents a striking contrast to Australia in the paucity of its reptiles. The traveller may walk in safety through the long grass and the thick fern without the uneasy feeling arising from the dread of treading on a poisonous serpent, which pedestrians in the latter country so often experience. Of snakes there are none, the only indigenous reptiles being a few species of lizards, the most remarkable of which is the *Hatteria punctata*, or 'tuatara,' which is now nearly extinct. This large lizard possesses a bird-like skeleton, and, according to naturalists, constitutes of itself a distinct order of reptiles; it formerly existed in abundance, dwelling in holes in the sand-hills on the sea-shore, and was killed by the natives for food. At the present time it has been completely exterminated by the wild pigs, and is only to be met with in some of the islands in the Bay of Plenty, on the East coast.

Batrachians are represented by one small species of frog, which is uncommon and but seldom seen.

The coasts of New Zealand abound in fish, many of which are excellent for the table. Upwards of 150 kinds have been enumerated. Some of the most impor-

NEW
ZEALAND.

tant species for edible purposes do not, however, frequent the bays and inlets of the sea, but are gregarious in the more open waters, where they frequent banks, upon which they may be systematically sought for. Sharks are numerous, especially on the Northern coasts ; one fierce and dangerous kind, the tiger-shark, is killed by the natives for the sake of its teeth, which they use as ornaments. The flesh of the shark is much valued by them as an article of food ; it is dried in the sun, and was formerly consumed in large quantities at their public feasts and convivial gatherings. That hideous-looking fish, the Chimera, or 'elephant-fish' (*Callorhynchus antarcticus*), is frequently met with on the coasts.

Tiger-shark.

Eels are found in the fresh waters of the Thames and others rivers. In many of the streams and lakes small fresh-water fish of delicate flavour are abundant, especially a small kind resembling whitebait, which are caught in nets, and, when cooked in bundles wrapped up in flax-leaves, in an oven formed of heated stones, are delicious eating. Among the forms peculiar to the country is a very remarkable species of mud-fish, described by Dr. Günther as *Neochanna apoda*, which is met with in gravelly clay, inhabiting a little cell sometimes ten feet below the surface of the ground ! In the first specimen examined, which was sent to England by Sir George Grey, the eyes were undeveloped, but it is now found that the fish has perfect vision and swims actively in clear water. Salmon from Europe have been introduced into some of the rivers of the South island.

Fresh-water fish
'White-bait.'

Large crayfish and other crustaceans are numerous along the rocky coasts ; and the mollusks are, to a great extent, peculiar specifically to New Zealand. Some of the marine shells are very beautiful, and highly prized by collectors. In Cook's Straits we meet with the imperial *turbo*, several species of *Struthiolaria* ; the large *Haliotis iris*, the richly-coloured, iridescent lining of which is used by the natives for ornamenting their canoes and weapons, and also for a kind of glittering fishhook. Some species of *Elenchus* they use as ear-drops. Oysters are numerous and well-flavoured.

Mollusks.

The land-shells consist of a great many species of small snails, together with three or four of considerable

Land-shells.

NEW
ZEALAND.

size. The *Bulimus hongi* is four inches long, brown outside, with a beautiful orange-coloured mouth. Two species of large flattened snails also occur, *Helix busbyi*, or 'papa-rangi' (the 'shell that fell from heaven,' according to the natives), which is of a curious shining dark green hue, and is found at the roots of the 'rata' tree; and another species, lately discovered on the mountains of the South island, which is olive banded with black, named *Helix Hockstetteri*.

Insects.

Insects are not especially numerous, though some remarkable forms are to be met with. A large brown tree-cricket, armed with spines, is a formidable insect. Amongst the coleoptera are several fine species of *Brentus*, with their long attenuated snouts. Butterflies are poorly represented, though one or two kinds are especially beautiful. Sand-flies and fleas are troublesome, especially the former, which attack the bare hands and feet with unceasing pertinacity at sunrise and sunset, when exposed to their influence in the forests and bush-clearings, and in low swampy places. A poisonous spider, called *Katepo* by the natives, is black, with a red stripe down the back.

*Beetles.**Sand-flies
and fleas.**Poisonous
spiders.**Peculiar
flora.**Scarcity of
Flowers.**Ever-
greens.**Contrast to
Australia.***Botany.**

Although in its flora New Zealand has some relationship with the two large continents of America and Australia, between which it is situated, and even possesses a number of species identical with those of Europe (without the latter being referable to an introduction by Europeans), yet the greater number of species, and even genera, are peculiar to the country. New Zealand, with the adjacent islands of Chatham, Auckland, and Macquarie, forms a botanical centre.

The visitor to the shores of New Zealand will be struck with the scantiness of annual and flowering plants, of which very few possess vivid colours to attract the attention of the florist. On the other hand, he will find a vast number of species of evergreen and forest trees, together with an endless variety of ferns, some of gigantic size, of which the greater part of the flora consists. The glaucous character of an Australian landscape, produced by its *Eucalypti*, *Casuarinae*, and *Banksiae*, is exchanged in New Zealand for the glossy green of a dense

and mixed forest, or, in the open country, for the russet-brown of the social fern. In the former general aspect, together with the tree-ferns, palms, and dragon-trees, which abound in New Zealand, that country resembles one situated between the tropics, and has much of the same character of vegetation as many of the beautiful islands lying north of it.

The lichens and mosses are not only numerous in species but in quantity. Of the former, many beautiful and interesting kinds are to be met with, especially the *Cenomyce retispora*, common near the Bay of Islands, resembling masses of white cellular coral; and a cup-moss, representing miniature wine-glasses edged with brilliant scarlet.

Some of the large fungi, growing laterally from the trunks of the forest trees near their roots, are so large and strong as to form capital seats. Crimson mushrooms ornament patches in the woods; and, at night, luminous toadstools sparkle like stars in every direction in the damp forests. There is also a very curious fungus parasitical on a large caterpillar. These are found at the roots of the *rata* trees. The name of the fungus is *Sphaeria Robertsi*, being the *hotete* of the natives.

Of all plants, however, the ferns and their allies are the most numerous in New Zealand, and form the distinctive vegetation both of its forests and open lands. Covering immense districts, they replace the grasses of other countries, and give a character and a russet hue to all the open hills and plains. In the forests the variety and elegance of their forms, from the most minute species to the giants of their kind, are astonishing. There exist three tree-ferns, the *Cyathea dealbata*, *C. medullaris*, and the *Dicksonia squarrosa*. The *Mah-rattia elegans* also assumes a tree-like appearance. Some of these beautiful ferns attain a height of forty feet. They generally grow in groups and clusters in the densest parts of the forest. The floral landscape of New Zealand may be divided into three distinct kinds. First, there is the primeval forest, composed of lofty pines and other evergreen trees of vast size, beneath the shelter of which flourish the tree-ferns and the graceful *nikau* palm (*Areca sapida*), which itself grows thirty feet high. All this forest is bound together and rendered well-nigh

Lichens
and mosses.Vegetable
caterpillar.

Ferns.

Tree-ferns.

Primeval
forest.

NEW
ZEALAND.

impassable by the rope-like stems of the *Smilax*, or supple jack. The whole is shaded externally from the sun by the lofty canopy of foliage overhead, and nourished by the ceaseless moisture that drops from every spray, rendering these antipodean forests rank with vegetation. Parasites sprout from the loftiest trees, while mosses and smaller ferns clothe their trunks with green, carrying a profusion of vegetable life up into their topmost branches. All is of the deepest green, and amidst the gloom an almost unbroken silence reigns ; whilst the warm, damp, windless air is laden with the delicious fragrance of the blossoms of the wax-like pink *hoya* ; and the tangled undergrowth of fuchsias is rendered gay by the large, star-like blossoms of a species of white clematis. Coming

**Open fern-
land.**

suddenly out of the forest, the traveller enters upon vast tracts of undulating land, without a tree, except here and there a solitary *dracena* or *cordyline*, the whole being densely covered with the social fern, breast-high, through which wind the narrow footpaths of the natives. The

Swamps.

third phase of vegetation is represented by the swampy flats near the lakes and rivers, which are covered with clumps of the *Phormium tenax*, or New Zealand flax, and clusters of a sort of large Tussack grass, the *Typha angustifolia*, or 'raupo' of the natives, who employ it for building and thatching their houses.

Besides these three distinctive features there are certain volcanic tracts on the barren table-lands in the interior of the North island, where a coarse, wiry sort of grass called *wiwi* takes the place of ferns ; and in the South island, and to the north of the valley of the Hutt, are large areas of land suitable for cattle and sheep.

Grasses.

Amongst the climbing plants which seek the support of large trees the principal one is the *Freycinetia Banksii*. It attaches itself principally to the 'Kahikatea' pine. It flowers in September, and the natives are very fond of the sweet and luscious *bracteæ* of the blossoms.

Aralia.

The *Aralia crassifolia*, or Fish-bone tree, grows to a height of twenty-five feet, and from its remarkable growth forms a curious object in the landscape. During spring, the banks of the large rivers are made gorgeous by the blossoming of the *Edwardsia*, or New Zealand laburnum, with its pendulous clusters of golden blossoms.

Many of the timber trees yield excellent woods, suit-

*Freycinetia
Banksii.*

able for all kinds of purposes. The most important of all these is the *dammara* pine, or 'kauri.' This magnificent tree is a model of symmetry, growing very erect, and producing whorls of branches at regular intervals up the trunk, tapering to the top. It attains the altitude of 100 feet, and a circumference of from 20 to 25 feet. The timber is close-grained, durable, and valuable either in plank or for the yards and masts of vessels, for which purpose it has long been in requisition for the ships of Her Majesty's navy. This tree also yields a pure white resin, now in great demand as an article of commerce for the production of a clear and beautiful varnish.

European grasses, fruits, vegetables, and flowers of all kinds thrive in New Zealand to an extent perhaps unequalled in any other region of the globe.

Government.

By the Treaty of Waitangi, in 1840, the sovereignty of the Islands was yielded to our Queen by the natives. The right of this surrender has been questioned, as a certain proportion of chiefs could not act for others, individually as independent as themselves. But the interests of the Maories were consulted, as one rule in New Zealand has prevented those tribal wars which were so common before.

At first one Governor at Auckland controlled the island. A Lieut.-Governor was nominated in 1846, resident at Wellington, while the supervision was at Auckland. This duality soon gave way to unity of government. The rise of the southern settlements necessitated another change. In 1852 New Zealand was divided into the six provinces of Auckland, Taranaki, Wellington, Canterbury, Nelson, and Otago.

While each of the provinces had its own local legislation, a central parliament at the capital regulated general affairs, and held control of the lands. A Superintendent, elected by the people, presided over each province.

Subsequently, the local councils had the administration of the lands within their own territories, and more extended provincial freedom was granted, including the right of borrowing money for internal improvements.

NEW
ZEALAND.
Kauri pine.

Kaurigum.

Fertility of
soil.

GOVERN-
MENT.
Chiefs
equally
independ-
ent of old.

One rule
good.

Dual go-
vernment.

Six
provinces,
1852.

**NEW
ZEALAND.**

**Change of provinces.
Parliament.**

Hawke's Bay was separated from Wellington in 1859, Marlborough from Nelson in 1860, Westland County from Canterbury in 1868, and Southland from Otago in 1861, though re-united in 1870. Westland was last formed.

The General Assembly, or Parliament of New Zealand, answering to the Congress of the United States, meets now at Wellington, as more central than Auckland, the former capital. The Executive Council consists of the Governor, appointed by the Queen, and five members of a Ministry responsible to the country. The Legislative Council has 49 members nominated for life by the Governor, and the House of Representatives has 88, including the four Maories elected by their own race. Thirty of the Lower House were from the North Island, and 44 from the South. There is now manhood suffrage, as well as a property tax. There are 69 electoral districts.

The Otago Provincial Council had 50 members, Canterbury 40, Auckland 40, Wellington 25, Marlborough 20, Nelson 20, Hawke's Bay 20, and Taranaki 15. New Zealand had political freedom before Australia, but now enjoys a lesser amount of privileges.

The great difficulty of the New Zealand Government has been that of finance.

The first Governor was so hard pressed with a heavy expenditure and small income, that he had to issue two-shilling paper assignats to tide over a season. But the wars with the Maoris have occasioned great outlay.

Although these wars cost 6,000,000*l.*, a large part of that sum was paid by the British Government, whose errors of judgment, perhaps, had produced no small amount of the dissatisfaction of the aborigines. But much burden of this expenditure was thrown upon the settlers, and so originated a large part of the public debt.

Thus it was that in 1873 the General Government owed no less than 6,881,621*l.*, and the several Provincial Councils had loans to the extent of 3,448,475*l.* more, making a total of 10,329,736*l.* On the union of the several governments in 1876, the debt became one. That was 20,900,000*l.* in 1877, since increased to 25,900,000*l.*

But the increasing prosperity of the country, and the growth of population, enable the rulers to contemplate so large a loan without much apprehension now, though

**Provincial
Councils.**

**Finance
difficulties.**

**Maori wars
expensive.**

**Cause of
public debt.**

**Loans and
interest.**

**Public debt
less bur-
densome
now.**

felt as a grievous burden a few years ago. Anxious to keep their position in the colonial race, and attract more immigrants, they were prepared to involve themselves in a few millions more; but the greater part of this capital became absorbed by such productive works as railways.

The local debts in 1872 were as follows:—Otago, 1,335,525*l.*; Canterbury, 683,319*l.*; Auckland, 682,150*l.*; Wellington, 261,956*l.*; Westland, 207,430*l.*; Hawke's Bay, 113,343*l.*; Nelson, 81,422*l.*; Taranaki, 31,000*l.*; Marlborough, 13,527*l.* Most of these provinces were preparing to contract fresh loans for further improvements. And yet, from land sales alone, Canterbury that year had 400,000*l.* overplus of revenue.

The revenue of the several provinces for 1872 will indicate their relative progress:— Revenue.

Provinces					Revenues £
Auckland	.	.	.	.	196,822
Taranaki	.	.	.	.	11,263
Wellington	.	.	.	.	119,762
Hawke's Bay	.	.	.	.	41,018
Nelson	.	.	.	.	74,028
Marlborough	.	.	.	.	10,747
Canterbury	.	.	.	.	477,736
Westland	.	.	.	.	70,229
Otago	.	.	.	.	432,763
					1,434,377

In 1877 the Customs revenue from different ports will show the relative importance of places under the consolidated Government:—

					£
Dunedin	.	.	.	.	352,223
Lyttleton	.	.	.	.	200,857
Auckland	.	.	.	.	196,232
Wellington	.	.	.	.	176,939
Greymouth	.	.	.	.	41,116
Napier	.	.	.	.	40,257
Hokitika	.	.	.	.	33,808
Invercargill	.	.	.	.	33,036
Nelson	.	.	.	.	32,817
Wanganui	.	.	.	.	21,500
Westport	.	.	.	.	13,297
Oamaru	.	.	.	.	11,544

The total Customs revenue for 1877 was 1,213,479*l.*; from sales and rents of land, 1,509,683*l.*; from railways,

Provincial liabilities.

**NEW
ZEALAND.**

**Financial
troubles.**

470,796*l.*; from post and telegraph, 194,340*l.*; from stamps, 127,292*l.*; from gold fields, 25,294*l.*; from gold duty, 36,804*l.*

Among items of expenditure in 1877 were: Interest of debt, 1,040,837*l.*; payment to counties, 667,032*l.*; railways, 359,865*l.*; schools, 234,365*l.*; post, 227,793*l.*; provincial debts, 134,028*l.*; aid to local bodies, 128,818*l.*; defence, 145,709*l.*; natives, 50,737*l.*; police, 85,286*l.*; charitable institutions, 76,536*l.* The working expenses will be lessened by the union of the nine provinces in one.

The difficulties of New Zealand finance have been of long standing. Deficiencies have called for increased taxation, and disheartened the colonists. But the working of the mines, and the prodigious development of the farms, encourage the financiers in the hope that better days have come, and that no new disorders are likely to occur. With exports at above 15*l.* per head, and imports at 18*l.*, the wealth of the country seems established. The embarrassment of a Government, however, is possible, while the people may be prosperous.

The colonial revenue for 1878 was 4,167,889*l.*, and the expenditure, without loans, 4,365,275*l.* The revenue of the year ending June 30, 1879, was 3,551,814*l.* The taxes are heavy to meet the heavy interest on loans. A new land tax may bring 100,000*l.* extra, a fresh burden. The property tax is one penny. But railroads were a necessity in such a colony, and the profits will soon meet the interest. There will be 1,200 miles by 1880, all State property. Railways gave 145,000*l.* profit in 1877. The land is being rapidly taken up, and the increase of stock is remarkable. Excessive speculation and imprudent immigration may retard progress, but be of no lasting injury.

Population.

**POPULA-
TION.**

**First in-
habitants.**

Soon after the settlement of New South Wales, in 1788, runaway sailors and convicts found their way to New Zealand. It is true that some were eaten by the cannibals, but others settled among them, and raised families of fine-looking half-castes.

When whaling commenced with Sydney and Hobart

NEW
ZEALAND.

Town merchants, New Zealand was a favourite ground for the blubberly fish; and stations, with boats' crews, were established permanently at the Bay of Islands, and in Cook's Straits. Associations were formed with the natives, land was irregularly purchased, and settlements grew in the whaling ports.

The first great exodus from Great Britain took place in 1842. The English immigration soon swamped the old colonial one. For a number of years no reliable census was obtained. As with other colonies, New Zealand had intervals of rest from European immigration. The gold discovery in the Colony sent thousands of diggers thither from Sydney and Melbourne.

The increase from 1851 to 1858 was at the rate of 122 per cent.; from 1858 to 1861, 40; from 1861 to 1864, 73; from 1864 to 1867, 27; and thence to 1871, 17 per cent. In 1878, 230,998 males, 183,414 females.

In the three years preceding that last census, Auckland increased 29 per cent.; Otago, 25; Canterbury, 22; Marlborough, $19\frac{1}{4}$; Hawke's Bay, $14\frac{1}{2}$; and Wellington 9 per cent. Nelson was the only province that lost ground. In 59 boroughs, 1878, were 163,028 people.

The population in 1843 was 13,128; 1854, 32,554; in 1860, 79,711; in 1865, 190,607; in 1871, 266,986; and in March, 1878, above 414,000; and 42,000 Maories.

The proportion of population in the capitals is thus placed by the Census of 1878, taken February 27:—

Whaling settle-
ments.British im-
migration.Ratio of
increase.Provincial
growth.Census
returns.Popula-
tion of
Provinces.

Towns	Males	Females	Total
Christchurch . . .	12,863	12,313	24,976
Dunedin . . .	11,599	10,891	22,490
Wellington . . .	9,854	9,183	19,037
Auckland . . .	6,969	6,762	13,731
Hokitika . . .	4,500	3,475	8,975
Napier . . .	4,545	3,823	8,368
Invercargill . . .	1,912	1,841	3,753
Plymouth . . .	1,321	1,357	2,678

In 10 years, Otago province had in excess of births over deaths, 25,225; Canterbury, 18,827; Auckland, 16,730; Wellington, 9,477; Nelson, 5,136; Westland, 3,376; Hawke's Bay, 2,611; Taranaki, 1,966; Marl-

**NEW
ZEALAND.**

**Proportion
of sexes.**

Occupations.

**Males and
Females.**

borough, 1,891. The Chinese in 1878 were 4,300 males, 5 females.

The disproportion of the sexes has varied much. In 1858 the excess of males was $13\frac{1}{2}$ per cent.; in 1861, $23\frac{1}{2}$; in 1867, $20\frac{1}{2}$; and in 1877, $13\frac{1}{2}$ per cent. New Zealand is thus far from presenting that equality of the sexes which marks the advance of civilisation, and distinguishes several of the Australian colonies. The Maori, or aboriginal, population was estimated in 1871 to be about 35,000 in the North Island, and only 2,350 in the South Island. After years of decline, the number rose in 1877 to 45,000 and 1,826 half-castes.

The occupations of the whites were, 1878, classified : trade and commerce, 17,622; agricultural and pastoral, 47,356; mechanics, &c., 20,625; mining, 21,522; labourers, 13,554; servants, 4,614; paupers, 2,225; professions, 3,795.

The number under 21 years of age was 108,358 males and 106,900 females; over 21, 121,279 males and 76,104 females. Above the age of 65, there were 3,103 men and 2,232 women. In 1878, 79 females to 100 males.

The sexes, in a total of 414,412 in March 1878, ranged thus in the provinces :—

Provinces	Males	Females	Total
Otago	64,850	49,619	114,469
Canterbury	50,424	41,498	91,922
Auckland	44,800	37,861	82,661
Wellington	27,877	23,192	51,069
Nelson	14,385	10,743	25,128
Westland	10,557	6,355	16,912
Hawke's Bay	8,509	6,506	15,015
Taranaki	5,173	4,290	9,463
Marlborough	4,283	3,274	7,557

Some of the townships were wider in this relation a few years ago :—

	Males	Females	Total
Grahamstown	1,252	929	2,181
Port Chalmers	824	582	1,406
Westport	519	359	878
Cobden	525	192	717

While the increase of males in the three years before 1871 was 14 per cent., that of the females was 22½ per cent. Dunedin in 1874 had 32,000 people, and Auckland 21,000. There were 4,440 Chinese in 1878.

The nationality of the population is different to that of Australia. Those born in the Colony formed 36·46 per cent. of the whole, in 1871. The English born were 26·15 per cent.; Scotch, 14·38; Irish, 11·60; Australian, 4·85; Chinese, &c., 2·28; German, 0·94; United States, 0·49; Welsh, 0·52; French, 0·22. New Zealand, excepting in Auckland, is not so much an Irish Colony, as portions of the Eastern Australias appear to be.

The *births* were 1,460 in 1855, and 17,770 in 1878.

The *marriages* were 406 in 1855, and 3,375 in 1878.

The married males were 26 per cent. and the married females were 36 per cent. of their several sexes. The widowers were, in 1871, 2,840, and the widows were 3,229. Of the unmarried over fifteen years of age, 57,088 were males and 17,468 were females.

Of the total marriages, 586 were contracted in Auckland Province, 440 in Wellington, 178 in Nelson, 699 in Canterbury, and 829 in Otago.

While 525 marriages were performed by Registrars, 690 were by ministers of the Church of England, 887 by Presbyterian ministers, 400 Roman Catholic, 328 Wesleyan, 33 Baptist, 95 Primitive Methodist, 87 Independent, 49 United Methodist, 2 Christian Brethren, and 9 Lutheran.

The ratio of marriages has not been maintained with the advance of population. In 1872 the marriages were in the proportion of 13·70 to 1,000 population; in 1876, 16·50; in 1878, 15·94.

Although comparatively few marriages are now contracted between the Maori women and white men, yet the half-caste children of such unions amounted to 1,947 in 1877. Half of them were living in Auckland Province, and few in Wellington. Though only a little over a couple of thousand natives are in the South Island, yet there were 472 half-castes in that island in 1871.

The *deaths* in 1878 were 4,642. The ratio per 1,000 was 12·65 in 1855; 14·28 in 1866; 15·13 in 1865; and 10·96 in 1878. While there was 1 birth to 24 in 1877, there was 1 death to 87 of the living; though the

NEW ZEALAND.

Nationalities.

Births.
Marriages.

Ratio of
marriages.

Half-castes,

Ratio of
deaths.

NEW
ZEALAND.

The Maories.

average for about twelve years has been 1 death to 79 of the population. In 1876 it was 1 in 78.

Captain Cook's observations.

The Maories.—Space is too limited to enter far into this interesting subject, especially to speak of the differences between the white and coloured races.

Captain Cook, one hundred years ago, found these a people living in good houses, well clothed in garments of native manufacture, having boats elaborately ornamented, dwelling under fixed laws, happy and numerous under their own civilised conditions. But he saw that they were heathens and cannibals.

Numbers.

From a population of some hundreds of thousands, they have become a miserable remnant. In 1856 there were but 65,000. In 1871 they were estimated at about 37,000, 35,000 of whom were in the North Island. More recent reports make the number about 42,000.

Cannibalism.

Though missionaries were established among them sixty years ago, through Mr. Marsden, chaplain of Sydney, cannibalism existed down to a few years since. Te Whero, the invader of Taranaki, cooked 2,000 prisoners in the ovens. Gradually the tribes accepted European civilisation and religion, though not altogether improved in some respects by the change of habits.

Change of fortune and habit.

They are now an educated, well-behaved people, industrious on their farms or vessels, worshippers of the dollar, and successful in mercantile enterprises. Many of them are wealthy men, and maintain some pretensions to grandeur. In the sale or leasing of lands to Europeans, especially to gold miners, they have secured a large income. For one block in Hawke's Bay the tribe receive a rent of 12,000*l.* a year.

Wealth and morals.

If more civilised and rich, they are less simple and religious. There are many symptoms of their dissatisfaction with Christianity, and a return to heathen customs. The Hau Haus opinion probably arose greatly from dislike to the *pakeha*, or white man.

Far above Australians.

As so-called savages, they were far above the state of the Australians. The latter never desired to rise above the condition of wandering hunters, never manufactured clothing, never cultivated land, and never had a form of worship.

Native civilisation.

On the contrary, the Maories had an advanced civilisa-

tion of their own, like that of Tahitians in the south and Hawaiians in the north of the Pacific. They knew the eight points of the compass, and had a Calendar. Their traditions and songs exhibited a superior development of thought.

But, more remarkable, they had an organised system of mythology, as elaborate as that of Rome and Greece. Many of their customs, as circumcision, washings, sacrifices, and views about food, were observed to be like those of the ancient Jews. But these, like their mythological ideas, must have been derived, ages ago, as those of the Mexicans and Peruvians, whom they so resemble, from a highly advanced people. While respecting inferior spirits, they believed in and worshipped the One God. Though heathen, they were not idolaters.

That which astonishes the learned is to recognise in the religion of the Maories so decided a likeness to that of the Phœnicians and ancient Egyptians. The New Zealanders, who are of the family of the light-coloured Pacific Islanders, must have had formerly some association with old-world civilisation.

It is grievous to observe that, since they have relinquished cannibalism, tribal wars, polygamy, slavery, tapu superstition, human sacrifice, sorcery, and heathenism, they have so strangely lost their former elasticity of spirit, their hearty enjoyment of life, and have become almost a childless community and a fast-decaying race. Our civilisation never suited them.

Native wars with the Colonial Government sprang to some extent from misapprehension of our object in colonisation, though British statesmen openly advocated the seizure of the Maori lands, as had been done with Australian lands.

When submitting to the sovereignty of England, by the Treaty of Waitangi, in 1840, the coloured inhabitants were guaranteed the safety of their possessions. But, suspecting the faith of the Government, a party rose in rebellion under the chivalrous Honi Heki, in 1845.

Other wars have followed land difficulties, especially in the Waikato country. The Waikato chiefs had never signed the Treaty of Waitangi, and did not approve of a yoke to which they had never submitted. Some indiscretion on the part of hasty officials and designing

Mythology
remarkable.

Jewish
customs.

Heathens
not
idolaters.

Religion
like the
Phœnician
and Egyp-
tian.

Our civilisa-
tion not
fitted to the
race.

Cause of
native
wars.

Rebellion.

Wars from
land
disputes.

NEW
ZEALAND.Doubtful
rule.Effect of
concilia-
tion.Native
saying.EDUCA-
TION.Otago and
Canterbury
best
educated.Expendi-
ture for
schools.High
schools.

civilians complicated affairs, and led the impetuous and suspicious tribes into open war.

Another cause of trouble was the sort of double government which existed. The Maories were considered subjects, but denied the rights of citizens. They had to obey laws, with the constitution of which they could have no part. They sought to be united under a King, with their own native rule, and yet they were amenable to the colonial authorities.

King Tawhiao, living in the interior of North Island, and long estranged from the whites, has lately shown a return of friendly feelings toward them.

No one denies the courage and military prowess of the Maories, while their intelligence as men is admitted. A better policy, giving them two representatives in the Assembly, and two members in the Council, has done more than steel to quiet the disloyalty of the tribes.

Every year the difficulty diminishes, for the whites increase as the Maories die off. As the English clover destroys the native grass, and the English rat is annihilating the native rat, so, believe the natives, must the Maori be swept off the fern-home of his fathers by the ever-rolling wave of British colonisation.

Education and Religion.

Some of the Provinces, as Canterbury and Otago, have taken more interest in schools than others; doubtless, from a stronger religious principle actuating the original settlers of Dunedin and Christchurch.

Otago and Canterbury have maintained their early educational pre-eminence for the character of their institutions, though recently their neighbours have made rapid advance.

In 1871 the following proportions of ordinary revenue were expended in education:—Auckland, about $\frac{1}{10}$; Taranaki, nearly $\frac{1}{5}$; Wellington, $\frac{1}{10}$; Hawke's Bay, $\frac{1}{3}$; Nelson, $\frac{1}{11}$; Marlborough, $\frac{1}{11}$; Canterbury, $\frac{1}{1}$; Otago, $\frac{1}{3}$. The secular system prevails in most parts.

The High Schools of Dunedin and Christchurch have quite a colonial reputation. The rush of immigration to the gold-fields, and the consequent demand for public works, although distracting attention for awhile from the school question, cannot affect it long. The Scotch

founders of Otago made admirable arrangements for public instruction. There is a high school for girls there.

The poverty of New Zealand, until the recent growth of the wool and gold exports, necessarily restricted school expenditure. In 1878 the cost per head was 6*l.* 3*s.* 9*d.* Education land reserves exist.

There were at the beginning of 1879, 748 public schools, having 1,611 teachers, 66,040 children on the roll, and 50,639 in attendance. The Government expenditure for these was 306,679*l.* The number belonging to private schools were one-third those with State aid. Schools for the Maories cost 10,740*l.*

Taranaki has not a public system of instruction, but grants so much a head for children taught in private schools. In the Otago public schools, in some instances, Latin, Greek, German, French, chemistry, drawing, and science are subjects for the class room.

The New Zealand University has an annual grant of 3,300*l.*, and fifty scholarships of 20*l.* each.

Religion has not been unheeded by New Zealand colonists.

Though the first settlers bore not the best of reputation, a better class afterwards migrated thither from Sydney, Hobart Town, and Melbourne. The early British migrations had, perhaps, a larger percentage of religiously-disposed persons than subsequent ones have exhibited.

Canterbury and Otago were avowedly established on Christian principles, the former by a Church of England Association, and the latter by a Free Presbyterian one. Though neither could, from the nature of things, maintain such sectarian exclusiveness, the influence of the foundation is still obvious in both. The gold fever, spreading through so very quiet and orderly a population as existed in Otago, produced as great a moral convulsion as a commercial one. The wild spirits of the colonies gathered to the diggings, and considerably modified the supposed Puritan laws of the *Old Dominion*.

The Church of England and the Wesleyan body had established Missions among the Maories long before the foundation of the Colony. Their ministers, therefore, exercised the earliest religious influence upon immigrants. The Presbyterian element was introduced at a later date.

NEW ZEALAND.

Debt re-tards pro-gress.

School re-turns.

Advanced subjects taught.

University.

RELIGION.

Character of immi-grants.

Religious foundation of Otago and Can-terbury.

Mission in-fluence.

**NEW
ZEALAND.**

Church census.

Protes-
tants.Roman
Catholics
fewer
than in
Australia.Provincial
churches.Sunday
scholars.Denomina-
tions.AGRICUL-
TURE.
Area
available.

In 1871 the various denominations, who are equal in the sight of the law, and equally unsupported by the State, occupied the position given below:—

Church of England, 102,889 ; Presbyterians, 63,624 ; Wesleyans, 19,971 ; Baptists, 4,732 ; Independents, 3,941 ; Lutherans, 2,341 ; Primitive Methodists, 1,883 ; Society of Friends, 201 ; Protestants, without church described, 4,852 ; Christians, 1,256 ; Unitarians, 269 ; Mormons, 107 ; Christadelphians, 111 ; while other Methodists, Moravians, Spiritualists, Universalists, &c., were 1,722.

The total number of Protestants in New Zealand would be, therefore, 207,418, without estimating 8,630 persons who declined to state their opinions. The Jews were 1,262.

The Roman Catholics were 35,608, or one-seventh the Protestant population. They are, consequently, fewer relatively in New Zealand than in Victoria, and less still than in Queensland and New South Wales. Auckland has the largest proportion of Roman Catholics, from its old connection with Sydney.

Half the population of Canterbury claim to belong to the Church of England, four-ninths of Auckland, and one-fourth of Otago. But about one-half of those in Otago are Presbyterians, one-fifth of Auckland, and nearly one-fifth of Canterbury, by the 1871 census.

The Wesleyans claim one-twelfth of Auckland, one-tenth of Wellington, one-eleventh of Nelson, one-ninth of Canterbury, and less than one-twentieth of Otago. The Lutherans are but 1 in 110 ; and the Jews, 1 in 200.

The pupils attending Sunday schools were 28,601.

The denominations in 1878 numbered as follows:— Church of England, 176,337 ; Presbyterian, 95,103 ; Roman Catholics, 58,880 ; Methodists, 37,879 ; Baptists, 9,159 ; Independents, 5,555 ; Lutherans, 5,643 ; Jews, 1,424. The 4,379 Chinese are pagans, but the Maories are mostly Christians.

Agriculture.

As the geology and meteorology of a country determine its capacity for agriculture, New Zealand, as a whole, may boast of its superiority over most colonies. A far larger area of the South Island than of the North

must be pronounced unfavourable, though the centre of the North is generally unfit for cultivation.

As to soil, while the upper half of the North Island is somewhat sandy, the strong clays appear toward Wellington, and the very deep deposits of black mould in Taranaki. The volcanic character of the Island renders it peculiarly attractive to farmers. The decomposition of lavas and volcanic ash gives a wonderful fertility to the region round Auckland and New Plymouth.

While the same geology runs eastward in one part, carrying productiveness with it, the primary rocks to the south-east yield no such agreeable deposits of mould.

In the South Island, while igneous rocks have provided arable soil in Nelson Province, and in the neighbourhood of both Christchurch and Dunedin, yet the prevalence of slates and ancient crystalline sandstones elsewhere has thwarted the hopes of the agriculturists.

Few places, however, are preferred to the Oamaru and Timaru of Otago, and some portions of the Canterbury Plains near the rivers. Good land is also obtained in Southland. Marlborough has some rich soil.

It is difficult to come to a just estimate of the relative advantage of the various provinces from a comparison of their population and average crop. Some, as Auckland, Westland county, Nelson, and Otago, employ a large number of men in gold-mining, while Wellington and Hawke's Bay are not suffering from that withdrawal from their fields.

Bearing this in mind, let the reader look at the average cropping. In this calculation, however, the acres relate to 1872 and the population to 1871.

Auckland Province had $2\frac{1}{3}$ acres per head; Nelson, $2\frac{1}{2}$; Otago, $4\frac{1}{2}$; Taranaki, $5\frac{1}{2}$; Marlborough, $5\frac{1}{2}$; Canterbury, $6\frac{1}{2}$; Wellington, $8\frac{1}{2}$; Hawke's Bay, $12\frac{1}{3}$. Golden Westland had but one-seventh of an acre.

This has no reference to the enclosures of the Maories, who, unlike the Australian natives, are essentially agricultural in their habits, and were so before accepting European civilisation. They have withdrawn themselves to their reserves, and enter into active competition with the whites in their produce. Their land in Auckland and Taranaki provinces is equal to any in the world,

NEW ZEALAND.

Difference
of soil.

Advantage
of
volcanoes.

South-east
poorer.

South
Island
soil.

Good loca-
lities for
farming.

Provincial
acreage.

Maori
farms.

**NEW
ZEALAND.**

686,923
acres in
crop.

A small-
capitalist-
farming
colony.

Better
prospects.

Provinces
compared
agricul-
turally.

Where
corn
grows.

Artificial
grasses.

and is tilled according to improved practice. The Maories have not only agricultural machines, but steam flour mills.

In the estimates of produce, however, the Government gives but those relating to the white population.

In February, 1878, there were, in all New Zealand, 686,923 acres under cultivation, besides 1,077,454 in ploughed grassed lands for depasture. The number of holdings was 20,519, of which 13,178 were freehold. This is a satisfactory evidence that the colony is what is called a small-capitalist-farming one.

The times are improving with the New Zealand farmer, who formerly hardly knew what to do with his produce when the country was strictly an agricultural one. The enormous demand for labour in mines, and the good prices for wool and meat in Europe, give a good market at home as well as abroad.

The agricultural fitness of the respective provinces may be learned from the table of percentages of crops on the acreage in February 1873:—

	Grain Per Cent.	Sown Grasses Per Cent.
Auckland	2·43	88·36
Taranaki	4·00	86·56
Wellington	1·67	96·73
Hawke's Bay	1·69	93·47
Nelson	11·51	70·75
Marlborough	14·34	78·33
Canterbury	30·62	52·21
Westland	0·49	74·05
Otago	30·54	48·63

From this we learn that the climate and other circumstances are most favourable to corn-growing in Canterbury first, then Otago, and at a considerable distance removed, to Marlborough and Nelson; while Auckland, Hawke's Bay, and Westland are not grain-growing districts.

But while Otago and Canterbury, on the other hand, succeed least with the artificial grasses, Wellington, Hawke's Bay, Auckland, and Taranaki expend nearly all their efforts in that direction. Westland is well

fitted for potatoes, though hardly yet to be styled an agricultural centre. Nelson, Otago, and then Auckland, are strongest in roots. Table of 1878 differs from 1873.

The acres under grain crop in 1874 were: Auckland, 5,190; Taranaki, 1,337; Wellington, 4,756; Hawke's Bay, 1,193; Nelson, 6,888; Marlborough, 5,470; Westland, 9 $\frac{1}{2}$; Otago, 119,163; and Canterbury, 120,099; a total in grain of 264,014; but, in 1878, of 456,462.

The fluctuations in yield are not trifling, although the climate is called so equable. Thus, wheat averaged 22 $\frac{1}{4}$ bushels at Wellington in 1871, and 18 in 1873; while in Auckland it was 14 $\frac{1}{2}$ in the first, and 18 in the second. Oats varied from 66 to 18 those years in Westland, and from 29 $\frac{1}{2}$ to 24 in Canterbury. Barley ranged from 22 $\frac{1}{2}$ to 11 in Nelson, and from 22 $\frac{3}{4}$ to 17 $\frac{1}{2}$ in Auckland. Potatoes were 6 $\frac{1}{2}$ tons, in 1871, in Westland, but 4 $\frac{1}{2}$ in 1872. Taranaki had nearly the same crop both years; but Wellington dropped from 6 $\frac{1}{2}$ to 5 $\frac{1}{2}$, Auckland from 4 $\frac{3}{4}$ to 2 $\frac{1}{4}$, and Otago from 5 $\frac{1}{4}$ to 3 $\frac{1}{2}$.

The wheat crop, which in South Australia is the absolute dependence of the farmer, was not at one time of so much consequence in New Zealand. The total acreage in wheat, for 1873, 131,797, is but one-eleventh of the whole in cultivation. The yield, however, was far ahead of that in one of the Australian Colonies, being no less than 3,188,696 bushels, or 24 per acre. The year before it was 23 $\frac{1}{2}$ bushels.

Canterbury and Otago in 1873 took the lead in wheat. The lands are open, fairly fertile, and in not too dripping a climate. The west coast is too wet for wheat.

While Westland had not an acre in this grain, Hawke's Bay had 474 acres, Taranaki 1,052, Wellington 1,770, Marlborough 2,309, Auckland 3,372, and Nelson 3,576, Otago had 50,781, and Canterbury 68,463 acres.

In 1878 the wheat crop averaged 10 bushels in Westland, 15 Marlborough, 16 Nelson, 23 Auckland, 23 Canterbury, 27 Wellington, and 32 in Otago. The oats were 20 in Auckland, 27 Canterbury, 36 Otago. The barley was 23 in Auckland, 26 in Wellington and Canterbury, 25 Marlborough, 28 Hawke's Bay, 34 Otago. The potatoes were 4 tons in Taranaki, 4 $\frac{1}{2}$ Westland, 5 $\frac{1}{2}$ Otago and Nelson, 5 $\frac{1}{2}$ in Wellington and Hawke's Bay, but 6 in Canterbury. The hay crop was good in Wellington.

Yield variations.

Wheat crop better than in Australia.

Acreage in wheat.

**NEW
ZEALAND.****Potatoes.**

**Yield
per acre.**

The colony had a reputation for potatoes before the Government was formed there. Captain Cook's gift of the root has been gratefully acknowledged. The original ground in which his seed was placed has been tabooed, or made sacred.

The crop of 1878, on 17,564 acres, amounted to 94,478 tons, or more than 5 per acre. In 1871 the average was $5\frac{1}{4}$, and $3\frac{1}{2}$ in 1872. Bay of Plenty grows tobacco.

It is not to be expected that the climate would allow of the growth of the sugar-cane, as in Queensland, or of maize, as in New South Wales. But with the heavy production of grain and roots, New Zealand is placed at no disadvantage. In one respect, however, it is in advance of all, and that is, in its capacity to raise artificial grasses. In 1877-8, 7,379,447 lbs. butter were made.

The hay of Australia is made from Cape barley, oats, and even wheat. But the hay of New Zealand is from sown grasses. The crop of February, 1878, on 45,090 acres, was 58,671 tons, or $1\frac{1}{4}$ ton to the acre.

No less than 1,077,454 acres were laid down in permanent English grasses, or three-fourths of the cultivated land. In 1872 the grain of Auckland was one-fortieth of the acreage, the grass lands were about eight-ninths. In Wellington they reached to forty-three forty-fifths.

Nelson's grass lands occupied about eight-elevenths, Taranaki's seventeen-twentieths, and Marlborough's eleven-fifteenths. But Otago and Canterbury had each but one-half in grass, owing to the greater dryness of the climate, and the openness of the country. New Zealand has since doubled its grass in five years.

It will thence follow that a considerable amount of wool and meat is raised by the farmer in New Zealand, instead of, as in Australia, being left almost absolutely in the hands of the Crown-leasing squatter. Nothing will tend to raise the character of farming in New Zealand so much as this wonderful capacity for laying down green and succulent grasses.

The increased attention to this profitable crop is evidenced in the rapid advance of its acreage. This, in 1858, was 98,061; in 1861, 158,062; in 1864, 272,123; in 1867, 427,893; in 1878, 2,608,339 sown grass.

In 1878 there were 985 thrashing machines, 4,829 reaping machines, and many steam ploughs.

**Farmers
there are
meat and
wool
producers.**

**Increase of
grasses.**

**Imple-
ments.**

The recent statistics for 1878 show the great superiority of South Island for agriculture; having 229,695 acres in wheat, 177,838 in oats, 21,723 in barley, and 10,516 in potatoes, while North Island had but the respective amounts of 13,711, 12,506, 990 and 7,048. The average area of farms was 97 acres in the North, and 89 in the South. The amount under artificial grasses, ploughed land, was 328,640 in North Island, and 748,814 in South; sown unploughed, 1,166,143 and 365,242.

NEW
ZEALAND.Farm
work.

Some of the products are herein compared in acres:— *Products.*

		Wheat	Oats	Barley	Artificial Grasses
Canterbury . . . S.	147,255	86,815	13,757	418,000	
Otago . . . S.	76,628	87,924	3,027	292,304	
Nelson . . . S.	2,794	1,422	2,074	21,161	
Marlborough . . . S.	3,017	1,668	2,865	15,227	
Westland . . . S.	1	9	0	2,122	
Auckland . . . N.	5,073	3,229	198	173,121	
Wellington . . . N.	5,891	6,523	367	77,298	
Taranaki . . . N.	2,069	699	91	20,717	
Hawke's Bay. . . N.	678	2,055	334	57,504	

The farmer in that colony is certainly not so tried by the climate when at his work as he would be elsewhere. But he will have his difficulties. It is not easy to drain a swamp to get at its rich, fat ground; nor is it a trifle to lay low a thick forest, or get rid of tussack grass and fern roots. But he is sustained in his toil with the hope of valuable results when he shall have achieved his task.

In 1878 there were 8,869,000 acres freehold, and 3,709,000 leasehold, besides 12,700,000 leased for pastoral purposes from the Government.

Pastoral.

PASTORAL.

New Zealand is not, like Australia, very favourable for squatters.

The wooded, marshy, and mountainous character of the country, the small area over which pasturage could take place, the limited extent of the colony, the great demand for agricultural plots advancing the price of land, the occupation of the interior by natives jealous of

Not a
squatting
colony.

**NEW
ZEALAND.**

**Part of
South
Island like
Australia.**

the approach of whites, are all reasons to render New Zealand unfit for the consideration of roving shepherds.

The circumstances of the South Island approximate to those of Australia, so far as the plains of Canterbury and the plateaux of Otago are concerned.

And yet, acre for acre, there is no comparison with the stock-bearing capacity of the land of ferns. Apart from the extent of country occupied by the Maories, there are so many thousands of square miles held by swamps, dense forests, fern thickets, enormous lakes, sterile rocks, and snowy ranges, that the *Bush* available for leases is limited.

But, as mentioned in the chapter on Agriculture, the capability of receiving permanent artificial grasses renders a small area of land more serviceable for the wool-grower, than the vast wastes required on the Australian continent.

**Farmers
raise stock.**

The effect of this is that, instead of a small number of wealthy graziers, almost every farmer does something in the rearing of stock. The number of dairy farms in the Colony, in connection with arable tillage, is one of the most pleasing features of New Zealand life, and a sound guarantee for the future happiness and virtue, as well as material progression of the settlements. The population is not so scattered as in pastoral Australia, but may gather more closely in groups for the purposes of education and worship, as well as for social advantages.

**Advant-
ages of this.**

The three millions of acres on the Canterbury Plains, the Dillon river district of Marlborough, and the treeless wastes of Otago, are available for sheep and cattle rearing something after the nomadic patriarchal style. But even there the rental is exceedingly high, as compared with the cheaper natural pastures of Australia.

**Squatting
districts.**

While, in Queensland, the payment is but 5s. a square mile, the rent would be from twelve to twenty times as much in New Zealand ; then, the annual assessment in Otago is sevenpence for a sheep, and six times as much for a beast. The native grass, meanwhile, is unquestionably poorer than that on the Kangaroo land.

But it is worth while leasing a quantity of land rather than purchase ; as, while the flock or herd run at large upon the wild grass, every year many acres can be roughly broken up and put into artificial grasses. The

wire worm, however, considers itself entitled to a luxurious repast on these pleasant and improved pastures. Seeds are thrown on unploughed land.

The increase of stock has been much greater in some respects than in Australia. The returns of five several years will exhibit the progress of the pastoral interest there :—

NEW
ZEALAND.

Stock
returns.

	Horses	Cattle	Sheep	Pigs
1858	14,912	137,204	1,523,824	40,734
1861	28,275	193,285	2,761,583	43,270
1864	49,409	249,760	4,937,273	61,276
1867	65,715	312,835	8,418,579	115,104
1878	137,768	578,430	13,060,338	222,061

Cattle require space to ramble over, and therefore thrive best on the plains of Canterbury and Otago. The same provinces are first in sheep-farming, some of the stations containing a hundred thousand sheep each. The details of the Stock Table of 1878 exhibit the proportionate pastoral wealth of some of the provinces :—

Large stations in Otago and Canterbury.

	Horses	Cattle	Sheep
Auckland .	20,932	127,577	544,277
Wellington .	18,807	99,234	1,386,305
Hawke's Bay .	6,758	27,745	1,572,544
Canterbury .	37,117	100,310	3,560,301
Otago .	38,103	147,829	4,446,023

Stock in the provinces, 1878,

The number of goats that year was 14,243; and of poultry, 1,323,542.

The progress of each province since 1856 is obvious from the contrast with the statistics of that year :—

and in 1856

	Horses	Cattle	Sheep
Auckland .	2,894	24,555	36,749
Taranaki .	329	2,525	13,148
Wellington .	2,000	20,000	250,000
Nelson .	1,637	13,893	285,100
Canterbury .	1,307	15,355	276,089
Otago .	1,076	15,600	129,902

**NEW
ZEALAND.**

Growth pastoral resources.

Less heat, but more catarrh for sheep.

Heavy fleeces.

Wool produce.

1878.
8,292,807l.

Wool export.

Meat-preserving.

The leap forward of the last two provinces has been very remarkable; though, with a less limited area, other portions farther north have done well. Unlike most squatting countries in the world, New Zealand is every year largely adding to her pastoral resources by the growth of permanent artificial grasses. There are no wild dogs there to carry off the flock. But, though animals suffer less from exhaustion, heat, and drought, sheep are more subject to catarrh and footrot.

The wool product is extraordinary, especially as the fleeces of the colony are so much heavier, though coarser, than in Queensland and New South Wales.

The yield has advanced from 1,071,340 lbs. in 1853, to 59,270,256 lbs. in 1878. In 1860 it had mounted to 6,665,880 lbs.; in 1864 to 16,691,666; in 1868 to 28,875,163 lbs.; in 1871, to 37,793,734. In 1877 the wool export came to 3,658,938l.

The wool value for 1853 was 66,507l.; for 1860, 444,392l.; for 1870, 1,703,944l.; but for the year 1872, the returns were 2,537,919l. on 41,886,997 lbs. of wool. The value for 1878 was 3,292,807l.

In the yield for 1877, the wool export was as follows from the provinces:—

			lbs.
Auckland	.	.	3,111,251
Taranaki	.	.	—
Hawke's Bay	.	.	5,480,445
Wellington	.	.	13,946,610
Marlborough	.	.	—
Nelson	.	.	15,363
Westland	.	.	107,113
Canterbury	.	.	17,101,431
Otago	.	.	24,719,111

The export of wool was about the seventieth part of that of Victoria for 1848; it is now above one-half.

Preserving meat companies will continue to arise while the worth of stock is low, and industries will hereafter utilise the skins that are now being exported as raw material. For 1873 the export of potted meats realised 139,046l., and of tallow 43,933l. In 1878 the first was 74,225l., and second, 178,502l.

The regulations pertaining to squatting leases vary in different provinces. Full details concerning them can be found under the head of 'Land Laws and Immigration.'

In 1877, Auckland had 64,700 acres leased to squatters, Hawke's Bay had 121,916; Wellington, 686,364; Nelson, 620,368; Marlborough, 1,079,945; Westland, 447,560; Canterbury, 4,168,461; and Otago, 6,831,046, making a total of 13,520,360, paying about 113,580*l.* rent. The Wairau Plains of Marlborough have the richest pastoral land for sheep. The Wairarapa Plains of Wellington have excellent feed.

NEW
ZEALAND.

Squatting
acreages.

Mining.

MINING.

The comparatively sudden development of this industry has excited surprise. The subtraction of labour for the gold-fields of Victoria led the various neighbouring colonies to make active search after the treasure, in order to retain their population. And yet ten years elapsed, after the gold appeared in New South Wales and Victoria, before it burst forth in its glory upon New Zealand.

Some small fields were known before; but the year 1860 gave but an export of 4,538 ounces. The year after, the amount was 194,234 ounces; in 1862, 410,862; and in 1863, 628,450, valued at 2,431,723*l.*

Gold-fields
long before
appearing.

After this famous *Rush* to Otago, the yield fell. The export for 1864 was 480,171 ounces; for 1865, 574,574 ounces. But 1866 gave the summit of prosperity—735,376 ounces, or 2,844,517*l.*

Yield of
gold.

The fall was gradual, but sure, till 1870, when it got down to 544,880 ounces. Yet, in 1871, the amount was 733,029 ounces, or 2,787,520*l.* The yield for the year after showed a decrease of nearly one million pounds' worth. In 1871, Auckland, by its wonderful mines in the Thames Valley, raised the largest amount, as seen in the following table:—

Decrease of
late.

			£	Provincial yield.
Auckland	.	.	1,888,708	
Otago	:	:	619,760	
Westland	.	.	531,648	
Nelson	.	.	439,936	
Marlborough	.	.	7,468	

But, fortunate as Auckland was that year, the export for the whole period preceding 1871 realised only 1,005,238*l.*; while Nelson had raised 4,018,404*l.*, Westland 5,812,187*l.*, and Otago 10,588,000*l.* The total amount exported up to 1879 was valued at 35,000,000*l.* Total raised.

**NEW
ZEALAND.**

South Island more auriferous than North.

Likeness to fields in Australia.

Glacial work.

Beach-combers.

Export from ports.

Auriferous terraces.

The distribution of gold is far greater in the South Island than in the North. With the latter it is confined to one province out of four, Auckland, and to but few places there. The South Island has diggings in every province. Wellington offered 2,000*l.* as a bonus for the discovery of gold-fields.

Some have seen a singular correspondence between the mines of New Zealand and those of Australia. Thus, the Thames is said to correspond with the Queensland Gympie field, Collingwood with Bingera, Buller and Hokitika with Ophir and Tambaroora, Tuapeka and Wakatipu with the Ovens. One field is entirely in the carboniferous formation.

The gold is found under similar circumstances to those of New South Wales and Victoria. But glaciers have in olden times carried off the gold drifts from the Alps of New Zealand. There are gold deposits covered still by portions of moraines.

On the west coast 'beach combers' rush down to the beach after a gale, to gather the fine golden sands brought down by the current from the north. These are golden beach terraces.

The gold exported for the year ending June 30, 1878, from the ports was as follows :—

	£
Dunedin	378,627
Auckland	224,454
Hokitika	243,052
Greymouth	268,276
Westport	60,758
Nelson	23,525
Invercargill	43,770
Picton	1,617
	<hr/>
	£1,240,079

The total for 1877 was 1,476,312*l.* Miners are 15,000.

The cement leads of the west coast are of indurated sand. The hydraulic hose is extensively employed upon the terraces there. These terraces are of two ages. The first, containing much auriferous treasure, run parallel with the mountain chains. Rivers coursing through them have carried off gold to settle it in other terraces nearer the coast.

The reason why gold-fields have not opened on the

NEW
ZEALAND.

east side of the Alps is owing to the overlying deposits being of great depth. In 1877 the machinery on Gold Fields cost 526,337*l.* The mining leases, 547, were over 3,738 acres. The water races, 6,000 miles, cost 400,000*l.*; the tail races, 103,000*l.* There were, in 1877, 13,062 European miners, and 3,708 Chinese, or 16,770.

Besides gold, the mineral wealth of the colony is not great. Silver, on the Thames, Rangitoto, &c., is in paying quantities. It is found, with gold, in the iron sands of Westland shore. Tin, seen at Taupo, and Shortland, may be valuable some time; for, though recognised for many years in Australia, it has only just begun to be worked there. Platinum sand exists on the coast of Southland and Westland; Nickel is in Auckland.

Chrome iron ore is in such quantities at Dun Mountain, Nelson, as to have an excellent prospect of being a paying export. The Parapara iron of Nelson has been wrought. Iron of a rich quality can be procured from large boulders of ironstone. The Taranaki iron sand has long been known and valued, though the difficulty of rescuing it on that stormy coast for many years prevented persons undertaking the work. Greymouth antimony ore has gold and silver. Wellington has graphite.

A lease now granted by Government requires a royalty of one shilling per ton. But the lessees have to smelt, after the expiration of two years, at least 2,500 tons a year, or pay a fine of 10*s.* for every ton deficient of that amount.

A recent analysis of this sand gave 88 per cent. peroxide of iron, and 11 of oxide of titanium, realising 61 per cent. of pure iron. The iron sand of Stewart's Island is also good. That of Onehunga, Auckland, will pay well, as well as the Manukao steel. Graphite is in Taranaki.

Copper once promised well. Barrier Island was spoken of as a second Burra Burra. Paying lodes may exist at Aniseed Valley, Dusky, Kawan, Coromandel, &c. Tin is found in the Buller, and antimony at Greymouth.

Coal is being worked at Greymouth on the west coast. That of a tertiary kind at Port Chalmers, Malvern Hills, Auckland, and many parts of the interior of Otago, Nelson, and Canterbury, will be utilised. Raglan and Westport are turning out good coal. The Bay of Islands seam is thirteen feet thick. A railway must bring the

Iron ore.

Taranaki
iron sand.

Copper.

Coal.

Quartz.
Mining
much im-
proved in
1873.

Silver and
tin.

**NEW
ZEALAND.**

Grey coal to Nelson, as the west coast is without harbours. Several seams are eighteen feet thick. In 1877-8, 32 collieries produced 140,000 tons.

TRADE.

Not much inter-colonial trade.

Shipping.

New Zealand, with its splendid coast line, is well situated for inter-provincial trade. But its inter-colonial trade, from its distance away from Australia, is not extensive. Communication with California has benefited the islands in a commercial sense. The South Sea Islands trade is a growing one, and will be more important as British colonisation extends throughout the Pacific.

Tonnage.

The shipping is, nevertheless, a very important interest in New Zealand, as steamers are almost the only available means of communication of one place with another. The gold rushes of late years, and the occasional rushes of immigrants, affect the returns of shipping.

**Imports
1878.**

The tonnage entering the ports in 1853 was recorded as 65,504; in 1860, 140,276; 1863, 419,935; 1865, 295,625; 1868, 277,105; 1877, 388,568 in 812 ships.

The tonnage belonging to Auckland was 120,669; to Wellington, 65,687; to Dunedin, 64,651; to Lyttleton, 62,067; to Bluff harbour, 26,919. The coasting trade is very great.

**Goods from
Melbourne
and
Sydney**

The *Imports* for 1878 were valued at 8,755,667*l.*, only a small proportion of which was re-exported. The imports from Great Britain were 5,533,170*l.*; from Melbourne, 1,443,702*l.*; from Sydney, 789,739*l.* Drapery was 838,345*l.*; sugar, 425,461*l.*; spirits, 240,618*l.*; hardware, 230,097*l.*; tea, 212,906*l.*; boots, 181,105*l.*; apparel, 176,705*l.*; wine, 95,382*l.*; flour, 87,486*l.*

**Exports
1878.**

The exports for 1878 were 6,015,700*l.* Those to Great Britain were 4,727,242*l.*; to Melbourne, 750,390*l.*; to Sydney, 239,190*l.*; to Pacific Isles, 75,518*l.*; to China, 21,434*l.*; to Adelaide, 51,723*l.*

Wool was the chief, 3,292,807*l.*; gold, 1,244,190*l.*; wheat, 423,032*l.*; tallow, 178,502*l.*; Kauri gum, 132,975*l.*; preserved meats, 74,225*l.*; timber, 51,154*l.*; oats, 39,074*l.*; barley, 24,468*l.*; leather, 18,344*l.*; butter, 12,111*l.*; hides, 9,571*l.*

Trade and Manufactures.

The imports and exports for the year ending Dec. 1, 1877, were as follows:—

	Imports	Exports	Table of exports and imports.
Auckland . . .	£1,163,788	£823,159	
Taranaki . . .	18,570	238	
Wellington . . .	1,370,839	1,033,829	
Hawke's Bay . . .	152,624	344,998	
Marlborough . . .	10,505	—	
Nelson . . .	237,049	28,417	
Westland . . .	272,827	237,412	
Canterbury . . .	1,848,939	1,878,964	
Otago . . .	2,398,277	1,980,455	
	£6,973,418	£6,327,472	

For 1878 the imports were 8,755,663*l.*; and the exports, 6,015,525*l.*

The wool growth has been from a million pounds in 1853 to over sixty-four millions in 1877. Wool growth.

The flax has had some alternations of fortune. So Flax. long as labour was cheap, the fibre paid. It is only since the introduction of suitable machinery that the manufacture has so sensibly affected the export.

In 1855 the export was 150 tons, worth 4,674*l.*; in 1856, it was but 22, at 55*l.*; in 1861, 2 tons; and in 1865, 3 tons.

But in 1869 it rose to 2,028 tons, at 45,245*l.*; and in 1870 it reached 5,471 tons, or 132,578*l.* The year after it fell again to 4,248 tons, at 90,611*l.*; though for the year 1873 the export was 139,267*l.*, one-third of which went from Auckland. In 1877, it was only 18,826*l.*

The Kauri gum export has considerably advanced during the last few years. Up to 1864 it gained the extent of 2,000 tons, but in two years. Since that it has been but once below that amount. In 1872 it was 4,811 tons, valued at 154,167*l.*; in 1877, 3,632 tons. Kauri gum.

The value of the article has often changed. Thus, in 1853, it was about 20*l.* a ton; in 1855, 13*l.*; 1860, not 10*l.*; 1863, 19*l.*; 1864, 27*l.*; 1869, 39*l.*; 1878, 70*l.*

The tallow, in 1872, realised 68,788*l.*; the hides, Tallow, &c. 31,763*l.*; leather, 18,224*l.*; sheep skin, 18,245*l.* Meats, fresh and salt, brought 173,041*l.* Timber sold for 50,901*l.*, 1877; tallow, 178,502*l.* in 1878.

**NEW
ZEALAND.**

**Export
of farm
produce.**

Agricultural produce export is but in its infancy. But the export of wheat fetched 423,032*l.*; oats, 59,130*l.*; barley, 24,468*l.*; flour, 48,441*l.*; cheese, 9,368*l.*; butter, 12,111*l.* in 1878. Oatmeal was 11,084*l.*; bacon, 13,232*l.*

Potatoes once formed an important export, especially after the gold rush to Victoria. Even as late as 1865, the sale brought 13,701*l.* But in 1871 the export was down to 1,310*l.* At present, the New Zealand farmer has an increasing number of miners and traders to supply at home, though the export in 1878 was 36,906*l.*

**Oil and
seal skins.**

Sperm oil, once so great an export, realised only 4,841*l.* in 1878. Sealing also, once so prosperous an undertaking, has latterly come to an end. The discoverer of the Macquarie Isles, in 1811, got 80,000 skins.

Railways.

Railways are of very great interest in New Zealand at present, and earnest efforts are being made in that direction. Until very recently, there were but the short lines to connect Christchurch with Lyttleton port, and Invercargill with the Bluff. Seven millions of money are now seen devoted to new lines. By 1879, 1,100 miles of rail cost 8,000,000*l.*, and 140 miles were being made. The receipts in 1878 were 670,187*l.*; but the expenses only 458,208*l.*

The want of good means of communication is a serious drawback to the Colony. But it is not so easy to make roads there as in Australia, owing to marshes, rivers, forests, scrubs, and fern thickets, or else rough rocks. Railways, therefore, are of imperative necessity to the expansion of trade.

Telegraphs.

The telegraph wires now extend from Auckland to the Bluff of Southland. The length of wire, 1879, was 8,000 miles. The Post Offices, in 1879, were over 800.

Banks.

Banking is a prosperous institution there. Five banks showed average assets, in 1871, amounting to 5,870,888*l.*, of which the New Zealand Bank claimed 2,843,402*l.* Six Banks, in 1878, had 14,098,940*l.* assets to 9,317,191*l.* liabilities. Their deposits amounted to 7,472,143*l.*

Post Office.

The Post Office Bank deposits for 1878 were 762,084*l.*, among 28,761 accounts. In 1867 the accounts were 6,977, and the deposits 96,373*l.* The Savings' Bank proper has deposits of over 220,000*l.* Telegraph communication is successfully established between the colony and Australia.

The shipping business of the provinces may be in some way indicated by the shipping returns for 1877, giving the number of vessels and their tonnage with cargo or in ballast.

**NEW
ZEALAND.**
Shipping
returns.

	Inwards	Outwards	Vessels
Auckland . .	120,699	125,649	224
Wellington . .	65,687	73,209	120
Dunedin . .	64,651	48,188	83
Lyttleton . .	62,067	66,877	168
The Bluff . .	26,919	31,535	53
Hokitika . .	11,340	7,647	23
Nelson . .	6,501	3,658	11
Napier . .	5,446	9,082	28
Timaru . .	4,883	3,556	15

For the year 1878 the total tonnage inwards was 456,490; and outwards, 428,493. Regular and frequent steam traffic exists from port to port, and to other colonies. There is a monthly mail to San Francisco by Honolulu.

Relation
of trade.

Manufactures commence hopefully. A colony with such resources must eventually be provided with flourishing industries, though never, perhaps, to the extent of some other colonies nearer to a market. At present, like its energetic rival, Queensland, it has mainly to attend to raw materials.

MANUFAC-
TURES.

The leading towns have, at present, too small a population for many manufactures. The flax promises to be a great success, though a few difficulties in its manufacture have yet to be removed. Bonuses were offered as encouragement by Government, of 5,000*l.* for the first 1,000 tons of iron, and 10,000*l.* for 100 tons of steel; 10,000*l.* for 250 tons of beet-root sugar; and 2,500*l.* for 100 tons of paper. Government recently tendered for 100,000 tons of steel rails made in the colony.

Bonus for
manufac-
tures.

The works and manufactures in 1871 were 529, and 942 in 1878. There were 32 meat preserving, 204 saw-mills, 28 foundries, 100 tanneries, 25 malt, 13 soap works.

Works.

The trading progress of New Zealand is a remarkable one. It is something to develop an export of 5,282,084*l.* in 1871, from 303,282*l.* of 1853, or some 1,700 per cent. advance. But the growth of some of the provinces is interesting to observe.

Trade
increase
1,700 per
cent. in
18 years.

**NEW
ZEALAND.**
Trading progress in different provinces.

Good times and bad times.

Export one hundred-fold in eight years.

Tariff.

Per pound.

Per cwt.

In 16 years, Auckland's exports have increased 1,290 per cent.; Wellington, 330; Nelson, 800; Canterbury, 1,500; and Otago, 6,000. But in 12 years of separate existence, Hawke's Bay gained 440 per cent.

On the other hand, Marlborough has made little or no move in 11 years, and Westland has declined in its 4 years.

Auckland and Wellington have been the steady growers, though not at the same rate, owing to the fortunate finding of gold at the first. They, too, occupied the best position in 1856. Estimating only to 1870, one had advanced 710 per cent., the other 370. It was the following year that made the great difference between them.

Hawke's Bay fell off rather from 1870. Nelson was in its glory in 1867 and 1868, when the gold poured in so fast. The export fell from 650,400*l.* in 1868 to 258,926*l.* in 1871. Westland fell 25 per cent., from 1867 to 1871.

Canterbury had its good times in 1865, 1866, and 1867. If estimated by the years 1856 and 1866, the growth was the enormous amount of 56,000 per cent. in exports. Two years afterwards, Westland was cut off from it. The yield of 1871 was not much above one-fourth of what it was in 1866.

Otago has not had the Canterbury extent of decline, as its export for 1871 was 60 per cent. of that in its grandest year, 1863. But, while Otago's growth has been 6,000 per cent. in 16 years, it was 10,400 in half that time, from 1856. Few other countries in the world ever increased their export one hundredfold in 8 years only.

The *Tariff* of New Zealand is here corrected to January 1879.

By the pound, the following is the rate: Tartaric acid, dried fruits, preserved fish, sardines, mustard, nuts, jams, and blue are 1*d.*; sugar and rice, $\frac{1}{2}$ *d.*; candles, $\frac{1}{2}$ *d.* and 1*d.*; almonds, 1*d.* and 3*d.*; confectionery and fancy biscuits, 2*d.*; spices, ginger, chicory, cocoa, chocolate, hops, and sheep wash tobacco, 3*d.*; coffee, 3*d.* and 5*d.*; tea, 4*d.*; powder, 6*d.*; tobacco, 2*s.* 6*d.*; cigars and snuff, 5*s.*

Boots, from 2*s.* to 12*s.* per doz. pairs; cement, 1*s.* barrel; glass, 1*s.* 100 super. ft.; fruits, 12 quarts, 1*s.*; pickles, 12 pints, 9*d.*; sauces, 12 pints, 2*s.*; woolpacks, 2*s.* 6*d.* doz.; malt, 1*s.* 6*d.* bushel; fire arms, 5*s.*; caps, 1,000, 1*s.*; doors and sashes, 1*s.*; lead, 2*s.* 6*d.*; soda, 1*s.*; biscuits, 3*s.*; nails, 2*s.*; starch, 3*s.*; sulphur, 1*s.*; chalk,

1s. ; rope and cordage, 5s. ; pearl barley, 1s. ; shot, 10s. ; soap, common, 3s. 6d. ; paper, 2s. to 2s. 6d. ; paper bags, 5s.

By the gallon, ale and beer, bottles, 1s. 3d. ; bulk, 1s. ; cordials, 12s. ; mineral and veg. oil, 6d. ; foreign spirits, 14s. ; liqueurs, 12s. ; varnish, 6d. ; wine, 4s., or for 6 quart bottles ; sparkling wine, 6s. ; turpentine, 6d. ; vinegar, 6d. ; Australian wine, 2s.

An *ad valorem* duty of 10 per cent. is put upon nitric acid, alum, American cloth, apparel, art-union prizes, bags and sacks, bales, beer engines, billiard tables, bird cages, blacking, black lead, blankets, bonnets, boot uppers, brass work, brewery plant, brushware, buckets, caps, cards, carpet bags, carpets, carriages and carts, carriage wheels and bolts, and cloth, chains not gold or silver, cheque books, chinaware, clocks and watches, coffin furniture, collars of paper, combs, confectionery, copper works, cotton counterpanes, cotton goods, cutlery, demijohns, desks, drapery, drawing instruments and paper, dressing cases, drugs, druggets, earthenware, engravings and pictures, essences, fish paste, floorcloth, flower pots, forfar, furniture, furs, gelatine, ginger, glass coloured, glassware, haberdashery, hair brushes and cushions, hardware, hats, hollow ware, horse shoes, hosiery, ink, iron bolts, rivets, ironmongery, isinglass, japanned ware, jars, jewellery, lamps, lasts, lead works, leather and leather cloth, linen, lime juice, looking glasses, mangles, matches, mattresses, mats, meats potted, millinery, music, oils in bottle, ornaments, paper boxes, paper, paper-hangings, papier mâché, pearlash, pepper, perfumery, pipes, picture frames, plate gold and silver, printing cards and labels, rice ground, rugs, saddlery, safes, shafts, shirting, silks, soaps scented, soap, stationery, syrups, tinware, toys, trunks, turnery, umbrellas, unfermented wine, velocipedes, whips, wooden-ware, woollen manufactures, zinc sheets and works.

Among articles allowed free are, anchors, blasting-powder, empty bottles, springs, &c., for carriages, chloride of lime, copper nails and sheathing, cotton waste, felt, filters, honey, iron for bridges and wharves, screws and castings for ships ; machinery for agricultural purposes, boring, brick-making, sawing, turning, quartz-crushing, manufacturing shoes, mills, steam vessels, presses, &c. ; maps, organs and harmoniums, church

NEW
ZEALAND.

Per gallon.

10 per cent.
ad valorem.

Admitted
free.

NEW
ZEALAND.

furniture, printing paper, passengers' luggage, potash, printing material and books, pumps, ploughs, railway plant, sail cloth, seed, school apparatus, sewing machines, sheep-dipping specific, steam-engines, tarpaulin, tin, watch works, and water pipes.

Stamp
duties.

The stamp duties are many : being, for agreements, from 1s. ; annual license of companies, 1s. per cent. ; appointment of trustees, 10s. ; transfer of shares, from 1s. ; bills and notes, on demand, 1d. ; otherwise, from 1s. upward ; bills of lading, 1s. ; cheques, 1d. ; conveyance of sale, 5s. ; deed, 10s. ; land transfer or lease, 10s. ; leases, from 2s. ; memorials, 10s. ; notarial act, 1s. and 2s. 6d. ; policies, from 1s. ; power of attorney, 10s. ; receipts, from 2s. 1d. ; deed of settlement, from 5s..

LAND
LAWS.**Land Laws and Immigration.**

New Zealand is actively competing with the Australian Colonies, in the attraction of immigrants. The 'unlocking of the lands,' first successfully achieved by Victoria after the gold discovery, grew to be a public cry among the inhabitants of all the southern settlements. But while the Australians had only to contend with the vested interests of squatters, New Zealand had the formidable difficulty of considering the claims of an alien race, the real and just owners of the soil.

Difficulties
different
from
Australian
ones.Maori sales.

In their days of savagery, the Maories were willing to part with blocks of land to white visitors for merely nominal rates. A small payment in old guns, iron tomahawks, and gaudy cottons, might then have purchased a large estate. And yet, the unpleasant neighbourhood of warlike cannibals, not always scrupulous in the observance of bargains, and occasionally indulging in the slaughter of whites, was not conducive to extensive immigration.

Little
trouble in
the South
Island.

The New Zealand Company, as has been mentioned, paved the way for Crown rule in the Islands. The law was then passed, that no land could be legally transferred from the natives, except to the Colonial Government. Maori rights were strong and firmly maintained, in the Northern Island ; but, in the provinces of the Southern

Island, little impediment to settlement had existence, as the coloured people were few and powerless.

Two great changes have since followed. The war between the two races led to confiscations of land; though, by the Amendment Act of 1865, it was ruled, that, 'The Governor's prerogative over the ground of rebellious tribes was not to be exercised after December 3, 1867.' But the Act, 26 Victoriae, No. 42, was a great concession, as, by its provisions, 'Natives were enabled to sell land to private individuals.' They now sell land freely.

It was seen that the best farming land, as well as the choicest sites of auriferous treasures, were in the possession of the tribes. Civilisation having sharpened the natural wit of this intelligent race, the agricultural seeker for river frontages, not less than the eager miner after quartz reefs, had to make a close bargain with the aboriginal lords of the soil. There are no native owners in South Island. The land has been appropriated fairly, and reserves allowed for the few tribes there.

The freedom from land restrictions, and the cessation of native wars, have given an immense impetus to the settlement of this healthy Colony.

The General Assembly hastened to take the tide at the flood. A vigorous effort was made to people the land. The Act of 1868 authorised any of the provinces to appropriate, for a certain time, one-fourth of their land revenues for this object. Increased facilities were afforded for the contraction of provincial loans, that public works might be constructed, new labour introduced, and a broader foundation laid for future prosperity.

AUCKLAND PROVINCE had, by the Acts of 1858, 1867, and 1869, sought to open up the lands. Grants were made to those who paid their own passage out to the colony. Naval and military settlers were provided with farms; from 60 acres, to privates or sailors, up to 400 acres, to commissioned officers. Even teachers, who conducted a school there for five years, received a present of land.

But the Act of 1870 was the crowning of the edifice. The *bond fide* settler, who should have resided for three years upon a block of land, and cultivated one-fifth part in that time, became entitled to a grant of 40 acres;

NEW
ZEALAND.

Confiscations of
land of
natives.

Maori
bargaining.

Auckland
land laws.

NEW
ZEALAND.Pastoral
regulations.

though not more than 200 acres could be thus obtained by the members of one family.

Certificates of occupation can be transferred after one year's residence ; and the rights of the holder, in the event of his decease, are claimed by his appointee or personal representative. But there is a suspension of land orders to those paying their own passage.

Pastoral tenants of the Crown have not the same advantages as in the broader lands of Australia. A license, for fourteen years, may be procured for a run in the province, but subject to these two conditions, beside the payment of rent. The license ceases on any part of the run which may be subsequently included in a *hundred*, for the purposes of settlement, or, that which may be sold or selected under Land Orders. If the area be held sufficient for the depasturing of 100 head of large cattle, or the equivalent of 600 sheep, the annual payment will be 5*l.*, with the addition of 5*l.* for every such 100 or 600. Queensland and South Australia can afford to be more liberal to squatters.

Timber
licenses.

Timber licenses are issued at the rate of 5*l.* for a year.

Land sales.

According to the Regulations of 1871, lands sold by public auction must be paid for in a cash deposit of one-fourth, and the balance within three months. The upset price of town lands was fixed at 20*l.* per acre; of suburban, at 3*l.*; of rural, at from 5*s.* to 40*s.*; while lands supposed to contain minerals other than gold were to be put up at a much higher price.

Leases of
flax land.

Flax-growing land can be leased for twenty-one years, in blocks not exceeding 600 acres, and after competition by auction. One-tenth part of the area is open to purchase during the term at a rate fixed by the Government, while the annual rent is to be not less than five per cent. upon that amount, or one per cent. upon the whole value. The holder is required, however, to dress a certain quantity of flax proportionate to the land leased.

Flax may be cut upon public lands on the payment of 2*l.* for a lease, and 1*l.* for each license.

Taranaki
land laws.

TARANAKI, formerly New Plymouth, has a division of rural sections and town sites; the former cannot exceed 200 acres in each. A noble provision for public instruction is made in the reservation of a belt round each town site, and one-twentieth part of a district, as an endow-

ment for schools. Facilities are afforded for the purchase of land for cemeteries, or church use, before a district is opened to the public for sale. The upset price of rural land in this fertile province is 10s. per acre. If not sold at auction, other arrangements are made for lots of from 40 to 240 acres.

WELLINGTON PROVINCE is favoured with liberal land regulations. Pasturage within the limits of the *hundreds* is only enjoyed by grantees, pensioners, or natives. Outside of such boundary inferior land may be had for 5s., and better at 10s. an acre. The holders of runs have a right of pre-emption over their homesteads at 10s. an acre.

In 1870 special settlements were sanctioned. Occupation licenses were to be issued for fourteen years, at $\frac{1}{2}d.$ per acre rent for the first four years, at $\frac{1}{2}d.$ for the next five, and 1d. for the last five. Such runs must, of course, be stocked according to the regulations.

In 1871 the system of *deferred payments* was adopted. The prices range from 20s. to 40s. an acre. If, after two years' occupation of land, the person has built a house, fenced the land, or cropped one-tenth of the farm, he is entitled to pay the balance of the purchase in four equal annual instalments. Non-fulfilment of agreement, or non-payment of rent, involves the forfeiture of the land. The area of these blocks varies from 40 to 200 acres each.

NELSON PROVINCE made reserves for public purposes, and appropriated one-twentieth of each district for educational endowment. All lands are sold by auction. The upset price is according to the quality of the land, from 5s. to 40s., determined by the Land Board. One-tenth of the purchase-money is to be deposited at the sale, and the balance within one month. Lands not open to sale may be privately purchased at 2l. an acre.

Squatters obtain fourteen years' leases of ground not held suitable for agricultural purposes. The area may be from 50 to 10,000 acres, at an annual rent of five per cent. of the assessed value of the land. The lease may be renewed once, for fourteen years, but at a doubled rental. Any portion of the run may, at six months' notice, be resumed by the Crown, after compensation to the tenant. The occupier has a pre-emption of home-stead, though not exceeding 80 acres.

NEW
ZEALAND.

Wellington
land laws.

Special
settle-
ments.

Deferred
payments.

Nelson
land laws.
Grants for
schools.

Pastoral
land.

**NEW
ZEALAND.**

**Mineral
licenses.**

**Mining
land leases.**

**Auriferous
land.**

**Timber
and flax
licenses.**

**Land pay-
ment for
public
works.**

**Canterbury
land laws.**

**Pastoral
leases.**

**Grants for
public
purposes.**

Mineral licenses form an important feature of the land laws of this mineral province. Prospectors for other minerals than gold have a license for twelve months over six contiguous square miles of unsurveyed land, upon payment of 1d. an acre. Mineral licenses, for all minerals other than gold, require a deposit of 2s. an acre, with a rental of 6d. an acre for the first two years, and 1s. for each year following. The term of lease is for twenty-one years, though the area cannot exceed two square miles. The rent is reduced by the royalty, which is not less than one-tenth, nor more than one-twentyfifth. When the royalty equals or exceeds the rent in any year, no rental is to be paid. The lessee may renew his term at the rate of double rent and royalty. The land cannot be sold during the period of a mineral lease.

Gold leases are procurable for blocks of land not exceeding 10 acres, at a rent of ten per cent. upon the value of the lands assessed by the Land Board. Recent changes have, however, affected the law of gold leases.

Timber licenses are granted for 10 acres at a fee of 5*l.* for the year. Licenses to cut flax may extend for seven years over 500 acres.

By the Act of 1872, Nelson grants land in part or whole payment of public works, road making, &c., within two miles of the scene of labour. Auriferous land is not included in a grant. Under some circumstances, the occupier of land on a gold-field may purchase a quarter acre for 10*l.* when reserved for a township.

CANTERBURY PROVINCE has been well administered. Its increasing prosperity has demanded a reduction in its land privileges. But there has been no want of claimants for areas at increased rates. Runs, duly stocked, containing less than 1,000 acres, paid, after May 1st, 1873, not less than 3*l.* 4*s.* rent per 100 acres. If extending to 5,000 acres, 2*l.* 13*s.* 4*d.* per 100 acres would be required for the first 1,000 acres, and 1*l.* 6*s.* 8*d.* for each additional 100 acres. Above 5,000 acres, the rent is 1*l.* per 100 acres. This rate will continue till May, 1880. Certain improvements must be made upon these pastures; though over certain proportionate parts of runs rights of pre-emption can be exercised.

Canterbury has always taken deep interest in educa-

tion, and a recent Act enables the Government to appropriate to school purposes, or other objects of public utility, any unsold township sites.

NEW
ZEALAND.

WESTLAND PROVINCE, formerly a part of Canterbury, is so essentially an auriferous region, that its land laws have a more than usual force of direction to mineral clauses. Though contractors for public works may be paid partly or fully in land grants, yet if such unimproved lands are subsequently discovered to be auriferous, the Provincial Council can repurchase them at double the price at which they were first taken.

Westland
land laws.

Suburban lands are sold by auction at an upset price of 2*l.* an acre, in blocks under 10 acres, in payments of one-fourth cash, and the balance in a month. The upset of rural lands is 1*l.* an acre, though special blocks of not less than 160 acres must be put up at 10*s.* Yet the interest of the gold miner overrides that of the agriculturist, as the suburban and rural purchased areas may be entered by the miner, subject to Government regulations.

Land not required for commonage for stock, and not open for sale, may be had for pastoral purposes, under annual licenses only, at from 2*d.* to 6*d.* an acre rent, according to extent of acreage. Flax-cutting licenses are issued at not less than 1*s.* per acre rent.

In so-called *settlement lands*, which are blocks under 50,000 acres each, unsold town lots may be leased at 30*s.* an acre rental; suburban at 6*s.*; and rural, if from 25 to 250 acres, at 3*s.* During the term of lease a purchase may be effected at the upset price, when rentals previously paid will be counted as part of the purchase-money. In seven years the lessee, provided he has occupied and improved his lands according to regulations, becomes the freeholder.

Settlement
lands.

OTAGO PROVINCE, though established by members of the Free Church of Scotland, has been thrown open to all comers by its land laws. Provision was made for the few natives from whom the province was purchased, by reserves of 16,000 acres.

Otago land
laws.

The three great interests of the pastoral, agricultural, and mining have been duly regarded in Otago.

Pasture leases are for ten years, the area being stocked according to regulations, at a rental of 7*d.* for every head of sheep, and 3*s.* 6*d.* for horses or cattle. Upon the

Pastoral
leases.

**NEW
ZEALAND.****Pastoral
regula-
tions.****Special
leases.****Land
sales.****Colonisa-
tion settle-
ments in
the south-
west.****Female
licenses.**

proclamation of a *hundred*, the lease ceases, if within such a limit, though 80 acres may be had at 1*l.* an acre, and improvements are paid for on other portions of the run. On granting a lease, the Government require a fee of from 5*l.* to 70*l.*, according *hundred*, annual licenses 3,000 to 40,000 acres. Within a to extent of lease from are issued to resident occupiers, pensioners, natives, or half-castes. The assessment is 1*s.* a year for small stock, and 5*s.* a head for great cattle. Lessees may purchase 640 acres of their run, if not recognised as auriferous land, at the usual upset price.

Land may be rented from the State for the cutting of timber and flax, removal of clay, gravel, or stone, for the working of quarries, or as sites for saw mills, flour mills, potteries, tanneries, slaughter yards, and, in thinly populated districts, for houses of accommodation, though not for the sale of alcoholic drinks.

Rural land is put up for auction at an upset of 1*l.* an acre, in blocks of not more than 320 acres. If within a run, the sale needs the consent of the lessee. If not sold within seven years after such proclamation, the upset price will be reduced to 10*s.* Applications for unsurveyed lands must be accompanied by a deposit of 2*s.* an acre for the estimated area, as payment for survey, together with one-tenth the value of the land. Both sums are returned if the purchase be effected. Should the survey cost more than 2*s.* per acre, however, the excess will be first deducted from the deposit.

COLONISATION SETTLEMENTS were authorised in 1869, for the western parts, at Martin's Bay and Perseverance Inlet. The lands are divided into blocks A, B, and C. In the first, free grants, if not exceeding 100 acres, may be made to persons over fifteen years of age, subject to residence of two years out of three. In block B, 100 acres are sold at 5*s.* an acre. In block C, the land is exposed by auction at an upset of 5*s.*, or open to selection at 10*s.* an acre, in areas of not more than 500 acres.

By a recent Act, licenses of occupation over 200 acres, for three years, may be obtained in Otago. Women, if not living with husbands, can be licensees. The annual fee is 2*s. 6d.* an acre, and certain improvements are required to be made. At the end of the three years, 17*s. 6d.* will be demanded before the Crown grant is

given. If the person prefer, a further lease of seven years may be had. The freehold is gained when 25s. per acre has been paid. Inferior land, valued at 10s., can be leased at 1s. 3d. per acre annually, and the farm extended to 320 acres.

Payment for labour on public works can be made in land by the Government, at the rate of one acre for every pound value of work. With special sanction, a man may thus obtain 1,000 acres.

Mineral lands, when not more than 80 acres, are leased for twenty-one years, at a reserved rent, though they may be put up to auction, after three years, at the lessee's request. The Land Board may refuse to sell land leased from the Crown, in the event of gold being discovered thereon. But holders of agricultural leases in gold-fields can purchase at the upset of 1*l.* an acre.

SOUTHLAND, once an independent province, has been re-united to Otago since 1870, though subject to its own land laws. These were very liberal to the squatter; as, when sales were made within the area of an exclusive pasture license, he received not only compensation for improvements, but from sixpence to two shillings for each acre disposed of, according to the unexpired term of his 14 years' license. The rental was the same as in Otago. The pre-emptive right is limited to 250 acres, or 5 per cent. of the run when under 5,000 acres.

The *Hundred* system prevailed there, as in other parts of New Zealand, to the advantage of residents; whose right of depasturing, however, was regulated by the amount of land held within the area of the hundred.

HAWKE'S BAY PROVINCE has much the same land regulations as its neighbour Wellington. But the Act of 1872 provides that special blocks of 20,000 acres be put up in farms of from 40 to 200 acres, at from 10*s.* to 40*s.* an acre, in payments extending over five years.

MARLBOROUGH PROVINCE was separated from Nelson in 1856, when new land laws were promulgated. While rural land can be obtained at the upset of 1*l.*, pasture land is rated at 5*s.* only. One-tenth of the purchase is deposited at the sale, and the balance within one month. Privileged sales are allowed for sites for churches, schools, cemeteries, etc. Of all gross proceeds of all land sites, $2\frac{1}{2}$ per cent. are paid over to the Board of Education.

NEW
ZEALAND.
Leases for
purchase.

Mineral
leases.

Southland
land laws
good for
squatting.

Hundreds.

Hawke's
Bay land
laws.

Marl-
borough
land laws.

Part of
land sales
to schools.

NEW
ZEALAND.Land Act
of 1877.Land
Laws,
1879.Special
regula-
tions.IMMIGRA-
TION.Free
passages.

By Act 1877 lands can be selected on the system of payments over ten years. In 1878, 15,000,000 acres were open for selection, and 13,500,000 were leased in 1878 for pastoral purposes for 118,531*l*. Thirty millions were for sale.

By Act 1879 lands are Suburban or Rural, and may be selected in lots from 20 to 320 acres, at the upset of 5*s*, 10*s*. and 15*s*., according to quality, on the system of deferred payments, 5 years for suburban, 10 for rural. The cultivation must be annually $\frac{1}{10}$ of the first, $\frac{1}{5}$ of the last, with improvements of 1*l*. in 6 years. *Pastoral* lands may be secured on that tenure in lots of 500 to 5,000 acres. In *Village Settlements* selections of one acre town and 50 acres country land can be made, 5*l*. for the one, and 1*l*. each farm acre. By the *Homestead System*, certain lands are secured by a family: under 18 years, 20 acres first class or 36 second; over 18, 50 or 75 acres. No family can have more than 200 first or 300 second. There must be residence 5 years, and cultivation annually $\frac{1}{5}$ open land, $\frac{1}{5}$ forest. *Special Settlements* may be had by large parties at 1*l*. an acre, and a rebate of 20*l*. allowed for each resident emigrant thereon.

Licences for 7 years are granted for timber or flax cutting, coal working, and Kaurie gum digging.

A Mining Board is constituted wherever 500 miners are gathered. Wardens have power to grant leases for 15 years. By law of 1877 an alluvial claim for one miner's right may be 100 by 100 feet, and extended claim to 6 acres: A quartz claim is 100 by 300 on each side of the vein, no party having above 1,000 feet on line of reef. River claims are up to 100 by 30; dredging, 200 to 2,000; and sea-beach frontages, 100 to 1,000. Prospecting areas are larger. Gold leases are granted. A business acre is 20 perches.

Emigration to New Zealand is a recognised fact.

Free passages are given to cooks, housemaids, general servants, dairymaids, &c., between the ages of 15 and 35. Daughters of married couples, when over 12 years of age, have also a free passage. In 1878 the arrivals were 16,263, and the departures 5,592.

Free passages are granted to married agricultural labourers, navvies, shepherds, and mechanics. Whilst three children between 1 and 12 in a family have a free

passage, payment must be made for others. Those above 12 are rated as adults, and between 1 and 12 as half adults. Boys above twelve, if going with their parents, have a free passage. Married men above 45 are not free. No single man above 40 is eligible.

At present, 1880, no grants are made to those paying their passage out, and there is a temporary suspension of the regulations for free and assisted passages.

Wages. Wages, though decidedly fluctuating, and being different in the various provinces, are thus stated in a circular, dated Jan. 1, 1879, sent out by the Agent-General for New Zealand, from the offices, 7, Westminster Chambers, Victoria Street, Westminster, London. The list, however, is the average for 1878.

Bakers, 5s. to 7s. a day at Auckland; 8s. to 9s. Christchurch; 10s. Dunedin. *Blacksmiths*, 9s. to 10s. at Nelson and Invercargill; 10s. to 12s. Wellington and Timaru; 10s. to 14s. Auckland; 12s. to 14s. Dunedin. *Bookbinders*, 7s. to 8s. Auckland; 8s. to 10s. Nelson and Christchurch; 9s. to 10s. Dunedin. *Brewers*, 7s. to 10s. Auckland; 10s. to 12s. Blenheim, Christchurch, and Dunedin. *Bricklayers*, 10s. to 12s. Auckland, Napier, Wellington, and Dunedin. *Brick makers*, 7s. to 8s. Auckland; 8s. to 10s. Wellington; 10s. to 12s. Dunedin. *Butchers*, 6s. to 10s. Auckland and Timaru; 7s. to 8s. Nelson; 8s. to 10s. Christchurch and Dunedin.

Carpenters and cabinet makers, 9s. to 10s. Auckland and Nelson; 10s. to 12s. Napier, Taranaki, Wellington, Christchurch and Dunedin; 12s. to 14s. Timaru and Invercargill. *Carters*, 5s. to 7s. Auckland; 7s. to 8s. Blenheim and Christchurch; 8s. to 10s. Dunedin. *Coach builders*, 9s. to 10s. Auckland and Nelson; 10s. to 12s. Taranaki, Wellington, Christchurch and Dunedin. *Coal miners*, 6s. to 8s. Auckland; 8s. to 9s. Christchurch; 10s. Dunedin; 9s. to 12s. Nelson. *Coopers*, 8s. to 10s. Christchurch; 9s. to 10s. Nelson. *Engineers*, 9s. to 10s. Auckland; 10s. to 12s. Nelson and Blenheim; 12s. to 14s. Dunedin. *Engine drivers*, 8s. to 10s. Christchurch. *Founders*, 8s. to 9s. Auckland; 10s. to 12s. Christchurch; 12s. to 15s. Timaru. *Gardeners*, 6s. to 7s. Auckland; 7s. to 8s. Wellington and Christchurch; 8s. to 10s. Dunedin. *Masons*, 9s. to 12s. Christchurch; 10s. to 12s. Nelson and Taranaki; 12s. to 14s. Dunedin.

Otago
wages list.

Millers, 7s. to 9s. Nelson ; 8s. to 10s. Auckland ; 9s. to 10s. Christchurch and Dunedin. *Miners*, 8s. to 9s. Auckland ; 7s. to 8s. Christchurch ; 12s. to 20s. Nelson. *Painters*, 8s. to 10s. Auckland and Christchurch ; 10s. to 12s. Dunedin and Invercargill. *Coach painters*, 9s. to 10s. Auckland ; 10s. to 12s. Christchurch, Wellington, and Dunedin. *Paperhangers*, 8s. to 9s. Auckland ; 8s. to 10s. Dunedin. *Plasterers*, 10s. to 12s. Nelson, Wellington, and Christchurch ; 14s. to 16s. Dunedin and Invercargill. *Plumbers*, 8s. to 9s. Auckland ; 10s. to 12s. Wellington, Christchurch and Dunedin. *Compositors*, 8s. to 10s. Nelson ; 10s. to 12s. Wellington ; 12s. to 15s. Christchurch. *Pressmen*, 8s. to 10s. Nelson ; 10s. Dunedin ; 10s. to 12s. Christchurch. *Lithographers*, 10s. Dunedin ; 10s. to 12s. Christchurch. *Saddlers*, 6s. to 8s. Nelson ; 8s. to 10s. Christchurch and Dunedin. *Shipwrights*, 9s. to 10s. Auckland ; 10s. to 12s. Nelson, Wellington, and Christchurch. *Shoemakers*, 6s. to 10s. Auckland ; 8s. to 9s. Nelson ; 10s. to 12s. Blenheim ; *Surveyors*, 10s. to 14s. Auckland ; 12s. to 14s. Dunedin ; 15s. to 20s. Nelson. *Slaters*, 8s. to 11s. Christchurch.

Tailors, 8s. to 9s. Nelson ; 10s. Auckland ; 10s. to 12s. Christchurch. *Tanners*, 7s. to 8s. Auckland ; 8s. to 10s. Christchurch ; 10s. to 12s. Dunedin. *Turners*, 8s. to 10s. Christchurch. *Watchmakers*, 10s. to 12s. Christchurch ; 12s. to 14s. Auckland and Dunedin. *Wheelwrights*, 8s. to 10s. Christchurch ; 10s. to 12s. Napier and Wellington. *Labourers*, 5s. to 6s. Auckland ; 6s. to 8s. Nelson and Christchurch ; 7s. to 8s. Dunedin ; 8s. to 10s. Invercargill. *Shopwomen*, 4s. to 5s. Nelson ; 4s. to 7s. Christchurch ; 5s. to 8s. Auckland. *Dressmakers*, 2s. 6d. to 4s. Auckland and Nelson ; 3s. to 5s. Christchurch. *Milliners*, 3s. to 5s. Auckland ; 7s. to 10s. Christchurch.

By the week : *Cooks*, 12s. to 14s. Auckland and Napier ; 12s. to 15s. Nelson ; 15s. to 20s. Invercargill. *Dairymaids*, 8s. to 10s. Nelson ; 10s. to 12s. Auckland. *General Servants*, 7s. to 10s. Taranaki ; 10s. to 12s. Auckland and Nelson.

By the year : *Ploughmen*, 45l. to 60l. and found, Wellington ; 55l. to 60l. Dunedin. *Shepherds*, 50l. to 65l. Wellington and Invercargill ; 70l. to 80l. Timaru. *Married couples*, 50l. to 70l. Taranaki ; 60l. to 70l. Christchurch ; 75l. to 80l. Dunedin. *Farm hands*, 30l.

to 52*l.* Christchurch ; 40*l.* to 55*l.* Wellington ; 52*l.* to 55*l.* Dunedin. *Housemaids*, 20*l.* to 30*l.* Christchurch ; 26*l.* to 30*l.* Wellington ; 20*l.* to 25*l.* Dunedin. *General Servants*, 25*l.* to 35*l.* Christchurch ; 30*l.* to 40*l.* Invercargill. The high wages of 1878 fell through 1879.

Provisions fluctuate in places as do the wages. *Bread Prices.* was 5*d.* per 4 lb. loaf at Dunedin ; 6*d.* to 7*d.* Auckland, Wellington and Nelson ; 6*d.* to 6½*d.* Christchurch ; 8*d.* to 10*d.* Napier and Blenheim ; 9*d.* Taranaki. *Beef*, 3*d.* to 6*d.* Dunedin and Christchurch ; 3*d.* to 6*d.* Nelson and Wellington ; 3*d.* to 10*d.* Invercargill.

Hints to Emigrants for New Zealand.

HINTS.

Climate.

While all men want to better their monetary condition in leaving the old country, not a few favour a climate more like that they have been used to in Britain. The severe cold of America, and the extra warmth of Australia, are avoided by a trip to the Fern Land. Even although wages be lower and expenses higher there than on the neighbouring continent, many prefer it on account of supposed climatic advantages.

But the emigrant, if liable to rheumatism, and suffering from a damp atmosphere, had better seek the eastern shore of Canterbury and Otago, where the rain is less. Highlands in the South Island should be shunned by those who cannot bear a keen dry air. Southland, though raw and windy, is very bracing for enfeebled nervous systems. Auckland has the softest climate, without the stirring blasts of Wellington. The intending emigrant, seeking New Zealand on the score of health, should remember what has been said under the head of 'Climate,' for the Colony has a remarkable variety in temperature and humidity, though never so dry and warm as Australia.

An unnecessary prejudice has been excited against the place on the score of earthquakes. These seldom extend beyond Wellington Province, and are not serious.

It is a paradise of labour ; for there, as in Victoria, the day's toil means only eight hours. The energetic way in which Government is proceeding with railways, throughout the two Islands, indicates the sort of employments which will be, for some time, most in requisition.

Farming can be conducted there with more comfort

Where
to go for
climate.Eight-
hours
labour
system.

**NEW
ZEALAND.**

Where to
look for
farms.

than in some other localities. An attentive perusal of the provincial land laws will inform the intending emigrant how to get a farm. But, if prudent, he will first consider what he wants, or he may select the wrong place.

The North Island is not the wheat-growing one. The farmer who intends depending upon the plough had better choose the open plains of Canterbury and Otago, or the deep and fertile soils of Southland. The best crops for weight and quantity are undoubtedly got near Invercargill. As the acres near old settlements are now enclosed, the selector will have to go back on the New Zealand *prairies*. But the Canterbury Government is resolved to run a railway along the Plains as far as the Alps; and the Otago rulers are equally resolved to bring the produce with ease to market.

Grasses.

If, however, the man wishes to follow the distinctive style of the New Zealand farming, laying down artificial grasses, he will probably prefer Auckland or Taranaki. The settlers of Canterbury and Otago, however, contrive to get a first crop of corn, and then lay down in grass for stock. Nelson, Marlborough, and Wellington are more available for that kind of work.

The interior of South Island is generally too rocky and rough for cultivation; while that of North Island is still a region of craters, hot springs, sulphur fumes, and too often of aridity. The natives hold the latter part, though having elsewhere still some of the richest soil of the country.

**Vines and
flax.**

Vineyards can be profitably raised in Auckland and Hawke's Bay Provinces, though scarcely equal to those of New South Wales and South Australia. Flax can be grown easily enough, though the native *Phormium* is becoming, through new and successful treatment, a most important local manufacture. If one can bear the wet climate, the largest yield of oats and barley can be raised in stormy Westland. Dairy produce is in the greatest plenty on artificial grass lands. If not a land for wine and oil, it is pre-eminently one of butter and cheese.

**Butter and
cheese.****Railways
necessary.**

Railways are essential to the success of the country which depends so much on agriculture; for the extra moisture, the prevalence of morasses, the multiplicity of streams, are all unsavourable to road-making. North Island, too, is so full of forests and scrub, that a tra-

veller can make little use of a horse in his way. South Island is more open for horseback, but rough for wheel tracks. The railway has now been completed between Christchurch, of Canterbury, and Dunedin, of Otago; thus the best farming district of New Zealand will have ready access to two ports.

The country is not a squatting one, though fine areas can still be selected for such a pursuit in Otago and Canterbury. When the latter province had 230,000 acres taken up in seven months, it may be presumed that much of this was for stock. But Australia has no competitor for squatting. For all that, New Zealand has the pre-eminent ability for feeding animals on artificial grass through the year, and can thus realise a future pastoral prosperity which the founders of the colony never contemplated.

Gold-mining can be wrought with more personal comfort in the Thames Valley of Auckland than in the tropical heat of Northern Queensland; though none but the most robust should encounter the tempestuous climate and hardships of the west coast of South Island. Yet Westland offers a great temptation to visitors, in its sands thrown up after storms. Crucible work on the shore extracts gold and silver from these ferruginous deposits.

Commerce, with such a coast line, must become a great industry. Small steamers were much called for, as the settlements rarely extend beyond a few miles from the coast. Seamen and engineers get high wages.

In short, the emigrant to New Zealand, if sober and industrious, is not an object of commiseration, but one to be congratulated upon his enterprise. He must not, however, expect all the refinements and luxuries of life to be found in Victoria, which has gained its fortunate position at a bound. Though essentially agricultural, the land supports an ever-increasing number of sheep, tended more after the English than the Australian style. Mines of gold, copper, and coal add to the resources. The progress of coal is a most hopeful sign.

Openings
for
squatting.

Gold-
mining.

Commerce.

Advan-
tages of
emigration.

THE FIJI ISLANDS.

FIJI ISLANDS. THE protectorate of these important Islands, or rather the annexation of them to Great Britain, having been more than once offered to Her Majesty by their King, Thakambau, and the principal native chiefs, the responsibility was finally accepted by this country in October 1874, when the King sent his club to Queen Victoria in token of submission and friendship; and this large group of islands, so admirably situated for trade, and favoured with a good climate and rich soil, has already become a centre of considerable commercial importance to this country in the Pacific.

Discovery. The first account we have of the discovery of these islands is by Tasman, who, in the year 1643, sailed past several of them, to which he gave the name of Prince William's Islands; the inhabitants themselves styling them collectively 'Viti,' which, by the Tongans and other nations, has been corrupted to Fiji. For 200 years after Tasman nothing further was known respecting them, although Captain Cook sighted one of the islands; and Captain Wilson nearly lost the first Missionary ship, the 'Duff,' on the reefs of Taviuni. It was not until the visits of D'Urville, and of Commodore Wilkes, of the United States' Exploring Expedition, that anything was known to us of the Fijis and their inhabitants; whilst the still more recent survey of the entire group by Captain Denham, in H.M.S. 'Herald,' has rendered us familiar with their geographical features.

History. Towards the commencement of the present century the Fijis were occasionally visited by vessels in search of sandal-wood and 'trepang,' for the Chinese market. These ships were always well armed, and no bartering was commenced with the natives until some of their chiefs had been sent on board as hostages, these people being then regarded as the most ferocious of cannibals.

In 1804 a number of escaped convicts from New South Wales managed to reach Fiji, and dwelt amongst

the natives for a long period, teaching them the use of firearms, and aiding them in their perpetual tribal wars, by which means they acquired a considerable influence over them. Rather more than fifty years ago, the Wesleyan Missionaries commenced their labours in the Tonga Islands, some 250 miles to the windward of the Fijis; and, in the year 1835, they pushed onwards to the latter group, landing their first missionaries at Lakemba. It is mainly owing to the indefatigable exertions of these self-denying men that the Fijians have been gradually reclaimed from paganism and the most revolting cannibalism to Christianity. Their work has so far civilised many of the islands as to pave the way for the advent of white settlers and adventurers from the neighbouring Australian colonies, of whom there are now nearly 2,000 resident in Fiji, many being engaged in sugar and cotton planting, sheep-farming, and various commercial pursuits. As far back as 1859, the last reigning monarch, Thakambau (who five years previously had embraced Christianity), with the consent of the leading chiefs, made his first offer of the sovereignty of these islands to the Crown of England; which offer the Government of that day declined to accept. For several years a form of government, initiated by the white settlers, principally for their own protection, was carried on in Fiji. It consisted of the King, as the head, with a salary of 1,500*l.* a year, and 200*l.* for private expenses; an Executive Council composed entirely of white men; a Legislative Privy Council, and a House of Representatives; the former being made up of the native Governors of the provinces into which the Constitution Act directed that the Kingdom should be subdivided; and the latter formed of European delegates from the electoral districts proclaimed throughout the islands, the members being elected by white men, from whom the Government was chosen. The Judicature was vested in a Supreme Court, consisting of a Chief Justice and two associate judges, one of whom was a native. Gradually, however, matters fell into a state of anarchy in Fiji. The settlers refused any longer to recognise the late Government, or to be further taxed for its support; and formally threw themselves on the protection of the Foreign Consuls. Maafu, the chief

FIJI ISLANDS.

Wesleyan
Mission-
aries.

White
settlers.

Government.

Fiji Islands.

next in importance to the King, also seceded from the Government ; and, in this dilemma, Thakambau and his advisers offered to cede the islands to Great Britain, with a debt of some 82,000*l.* contracted by the *de facto* Government during the last two years of its existence, in the hope of securing a better state of things under British rule—the result of which is shewn in the figures given further on.

Geographical features.

The archipelago of Fiji is situated in the South-western Pacific, between the parallels of 15° and 19° S. latitude, and the meridians of 177° E. and 178° W. longitude. It comprises nearly 200 islands, besides islets, rocks, and reefs. The two largest of these, called Viti Levu and Vanua Levu, are of considerable size, having each a circumference of from 200 to 250 miles ; the names of the other more important islands are Ovalau, Kandavu, Taviuni, Koro, Ngau, and Lakemba. Sixty-five of them are described as being inhabited. There are several good harbours in the group, the principal of which is that of Levuka, on the eastern side of the island of Ovalau, where the capital or chief European town of the same name is situated. The native capital is Bau, the former residence of the kings. It occupies a small island close to the mainland of Viti Levu, and is only a few hours' sail from Levuka. The largest river, the Rewa, is in Viti Levu ; it is a broad and rapid stream, from 400 to 500 yards wide, and navigable for small vessels for a considerable distance. Most of the islands rise abruptly from the sea, and present in their bold and irregular outline the peculiar character of the volcanic formation to which they belong. In Viti Levu there are thousands of acres of splendid flat lands ; and, although most of the country is undulating, and in some places mountainous, the soil everywhere is remarkably fertile and productive ; indeed, it is said that there is hardly an acre of land throughout this group that might not be either converted into a pasture or a plantation. The lofty peaks of Voma and Buke Levu are 4,000 feet high.

Like most islands situated within the influence of the easterly trade winds, the aspect of the weather side of all of them is essentially different from that to leeward. Owing to the constant moisture brought with the trade winds from the ocean, the former teems with a dense

mass of vegetation, huge trees, and innumerable palms, ferns, creepers, and *epiphytes*—hardly a break occurring in the luxuriant green mantle spread over hill and dale. The leeside, on the contrary, displays a fine grassy country, scattered, with the *pandanus*, or screw-pine, *casuarinas* and acacias. The high ridges of mountains that form the backbone of the two large islands, attracting the moisture from the clouds, and intercepting the numerous showers, send down streams of never-failing water to fertilise the valleys below. The coastline is, for the most part, fringed with a dense belt of cocoa-nut palms, intermixed with bananas, plantains, and other tropical trees. White beaches extend for miles round the various bays. At a greater or less distance from the shore are the encircling coral reefs, against which the surf of the outside ocean dashes in majestic grandeur ; whilst the sheltered lagoons within are glassy and smooth, teeming with gorgeously coloured fish and beautiful marine productions of all kinds, which are clearly seen at the bottom through the transparent water.

The Fijian Islands owe their origin to volcanic up-heavings and the busy operations of corals. At present there are no active volcanoes ; but several of the highest mountains must, in former times, have been formidable craters. Hot springs occur in different parts, especially at Savu-savu, where the temperature of the water stands at from 200° to 210°. Earthquakes are occasionally experienced ; and some few years ago an entire island was lifted above the level of the sea between Tonga and Fiji. The soil consists in many places of a dark red or yellowish clay, or of decomposed volcanic rocks, which prove very fertile, when plentifully supplied with moisture. Near Namosi, in Viti Levu, is a mountain abounding with malachite and antimony ore.

The only terrestrial mammals are a species of rat, and five kinds of bat, one of them being a large fruit-eating bat, called *Notopteris Macdonaldi*. The white settlers have introduced cattle, horses, goats, sheep, rabbits, dogs, and cats, all of which seem to thrive well. Of birds Dr. Seemann has given us a list of forty-six species, consisting of hawks, owls, ducks, pigeons, &c., and several kinds of parrots ; the scarlet feathers of one, the 'kula,'

Geological.

Mammals.

Birds.

Fiji Islands.

Fishes.

or *Coriphilus solitarius*, being greatly esteemed by the natives for ornamental purposes. Over 120 species of marine fishes have already been enumerated, most of which are good eating, and form a considerable portion of the food of those Fijians dwelling on the sea-coasts. There are no less than nine kinds of salt-water sharks, beside several fresh-water ones. Amongst the endless variety of beautiful little fishes that adorn the coral beds inside the reefs is one as large as a gold-fish, entirely of the finest ultramarine blue colour. Reptiles are not numerous. There are ten sorts of snakes, none of them more than six feet long, and mostly arborescent and harmless. A large frog is common in the swamps, the *Platymantis vitianus*. The green turtle is called 'Vonu-dina,' and that which yields the tortoise-shell, 'Vonu-taku.' Lizards are represented by a chameleon and four other species, the largest of which is a beautiful green lizard (*Chlorascartes fasciatus*), with a body two feet long. Land and fresh-water shells appear to be numerous, and some of the species are of considerable size. The reefs abound with handsome marine shells. On the south-west coast of Viti Levu, at a place called Nandronga, that rare and valuable shell the orange-cowry (*Cypraea aurantia*), or 'morning-dawn,' is occasionally met with. The possession of a specimen formerly gave a man a certain rank amongst his tribe. Crustaceous animals are well represented in the Fijis. There is a very large kind of land-crab (*Birgos latro*), which climbs the most lofty cocoa-nut trees and breaks the nuts, upon which it feeds. Insects are very numerous, and some of the butterflies and beetles are extremely handsome. At dusk the woods swarm with myriads of fireflies.

Shells.

Crabs.

Insects.

Botany.

Very few regions are so prolific in vegetable productions as is this favoured group of islands. Whilst the indigenous trees and plants are endless in their variety and usefulness, all those that have been hitherto introduced appear to flourish remarkably well. The seeds of the 'Dilo' tree (*Calophyllum inophyllum*) produce a valuable oil, which enjoys a wide reputation as a liniment in cases of rheumatism; and its timber, of which boats and canoes are built, is valued on account of its beautiful grain and hardness; whilst a resin which

exudes from its stem is used as a perfume. The candle-nut, the croton-oil plant, and the castor-oil plant are abundant. The Fijians manufacture fine arrowroot from the *Tacca pinnatifida*. Groves of the sago-palm extend for miles in the swamps of Viti Levu; and turmeric grows plentifully in all the lower districts, as does a species of ginger, and the 'male' nutmeg. The staple food of the natives is the yam, which in Fiji attains an enormous size and the perfection of mealiness. Next to the yam, as an article of food, come the 'Taro' (which is grown on irrigated ground), the cocoa-nut, the bread-fruit, the banana, and the plantain, of which two last there are about eighteen varieties. The 'Wi' (*Evia dulcis*) is a tree 60 feet high, covered with large oval yellow fruit of a fine apple-like and most agreeable flavour, highly suitable for pies. Boiled or roasted taro, with the fruit of the 'wi' as a dessert, is a common dinner with a Fijian family. The papaw, the guava, citrons, oranges, lemons, loquats, and custard-apples have all been introduced at various times, and flourish luxuriantly. Shaddocks are extremely common, and the trees line the banks of the rivers. Water-melons and bottle-gourds grow everywhere, and sweet melons, pumpkins, and cucumbers have found their way to these islands. The pine-apple thrives well, especially near the sea. The national beverage is the 'kava,' prepared from the root of the *Macropiper methysticum* by chewing, and the plant is cultivated in small patches around the dwellings of the natives. Nearly all the lowest class of whites in Fiji are 'kava'-drinkers. A tree dreaded by the inhabitants for its noxious qualities is the itch-wood (*Oncocarpus vitiensis*). A drop of the juice falling on the skin produces a pain similar to that caused by contact with red-hot iron. Another poisonous tree is the 'Sinu gaga' (*Excoecaria agallocha*), the thick black smoke from the burning wood of which is the native cure for leprosy. Two kinds of nettles, one 60 feet high, sting most unmercifully. In former times the sandal-wood (*Santalum yasi*) was plentiful in Fiji; but, owing to the great demand for this perfumed wood in the China market, it has now become exceedingly scarce, only a few trees here and there remaining. The Paper-mulberry tree (*Broussonetia papyrifera*) supplies the Fijians with

Botany.

FIJI ISLANDS.

the material for their 'tappa,' or native cloth, which they wear as a *toga*. Distinguished persons envelop their bodies in pieces of 'tappa' many yards long, and allow extensive trains to drag after them on the ground. Timber of excellent quality abounds on the larger islands, and a trade in it has sprung up with the Australian colonies. The Fiji Kaurie pine (*Dammara vitiensis*) rivals that of New Zealand. A species of *Casuarina* produces an exceedingly hard and heavy wood, formerly used for making war-clubs. Six species of palms ornament the forests, as well as many ferns of extraordinary beauty. Some of the native flowers are gaily coloured, and others emit a delightful fragrance, with which the natives profusely decorate their persons. Sugar, coffee, tamarinds, and tobacco, as well as cotton, thrive wonderfully well, the former growing wild in many localities.

Climate.

The climate of the Fijis, though tropical, is, as a rule, remarkably pleasant during the greater portion of the year. The heat is moderated by the trade-wind, so that its mean temperature does not exceed 80° Fahr. The lowest reading of the thermometer is 65°, and when it falls so low as this the days are by comparison cold and damp, and the native population do not care to stir out of doors; whilst the Europeans find the benefit of an overcoat. Such weather, however, only occurs during periods of strong gales and rain. Fevers occurring as epidemics are unknown, the only disease that Europeans have to fear being dysentery. Elephantiasis and occasional leprosy, together with glandular swellings, are frequent amongst the native population. From October to April, the hottest season, a considerable quantity of rain falls; whilst there are occasional showers during the dry season, which lasts from May to September. Hurricanes, or revolving storms, occasionally visit the islands during the first three months of the year, but successive years frequently pass by without their occurrence.

Native population.

The native population at the present time is variously estimated at between 120,000 and 200,000. The Fijians are a tall, well-made, muscular race of men. Neither so black nor so woolly-haired as the true Papuans, they are, nevertheless, nearer akin to them than to the lighter-coloured Polynesians of Tonga and Samoa. Formerly they were considered to be the most inveterate cannibals.

of any existing race; and although the introduction of Christianity amongst them has abolished this terrible custom wherever the missionaries have established themselves, it is affirmed that it still exists to a certain extent amongst the heathen tribes who inhabit the mountainous and as yet almost unknown interior of Viti Levu. The former method of dressing their crisp and somewhat woolly hair, spread out like a mop to a distance of ten or twelve inches from the head, is still adhered to by the less civilised tribes. They are very careful not to crush these grand wigs; and when they lie down they rest their necks on wooden pillows, elevated with legs some eight inches from the floor, so that the elaborately-dressed hair may sustain no pressure. They build large canoes, in which they perform somewhat distant voyages from one island to another. In the manufacture of their houses and weapons, as well as in their handsomely-chequered 'tappa' cloths, their wicker-work baskets and their earthenware vessels, they exhibit both taste and skill. In the Windward Islands there is a considerable mixture of the lighter Tonguese blood, owing to the colonisation of that portion of the group by the powerful Tongans, who were attracted thither by the plentiful supply of large timber for canoe-building.

During the American war, when cotton was everywhere in demand, and realised such high prices, there was a general rush from the Australian colonies to Fiji, and the cultivation of cotton was extensively carried on with considerable success; but, owing to the subsequent reaction in prices, the planters in Fiji have latterly been less fortunate. Sugar will, eventually, form one of the most valuable products of these islands, but the present state of depression, and the want of capital to procure the necessary plant for the mills, have retarded the progress of its cultivation. Tobacco offers a promising field to those who understand its management; the leaf in Fiji, grown from the best Cuban seed, being said to equal in every respect the finest productions of the Antilles. Sheep and cattle have been introduced by energetic adventurers from Australia; and some of the well-grassed smaller and uninhabited islands have been purchased from the chiefs and turned into

Com-
mer-
cial
products.

Fiji Islands. sheep-runs, the wool being of a good quality, and realising a fair price in the market.

Exports and imports. The value of the exports in 1878 was 192,865*l.* They consisted chiefly of Sea Island and other cotton, sugar, coffee, cocoa-nut oil, wool, tortoise-shell, beche-de-mer, candle-nuts, and other products of the islands. The imports amounted to 136,608*l.*

Land. Many of the earlier white settlers possess large tracts of land, which they have obtained from the natives. Desirable holdings may be bought from them at prices vary from 6 to 25 dollars per acre. In purchasing direct from the native chiefs much care is necessary to see that the lawful owner is the party dealt with.

The capital. Levuka, on the island of Ovalau, was the commercial capital. It is supplied with Christian churches and schools for the natives, and all the appliances of modern civilisation. But Suva is its rival for official residences. Levuka is 1,180 miles from Auckland, and 1,730 from Sydney.

Progress of the colony. As a British colony, under Governor Sir A. H. Gordon, Fiji has greatly progressed. The revenue was 16,000*l.* in 1875, and 61,020*l.* in 1878. Sugar, cotton, tobacco and coffee are largely raised. A wise system of local taxation, on a native plan, maintains the authority of chiefs and preserves order.

Climate. The climate, though tropical, is healthy. But measles in 1875 carried off 40,000 out of 150,000. The temperature at Delanassau ranged from 58° to 98°, with 124 inches of rain, on 170 days. But 212 inches fell in 1875 on 230 days at Vuna Point. Summer is wetter than winter.

Rotumah annexed. Rotumah Isle, north of Fiji, has recently been proclaimed a British colony, at the request of the inhabitants. It is but 6 miles long.

INDEX.

ABB

A BBOT MOUNTAIN, 240
Abbott Point, 242
Aborigines, the, 50; dying out, 51; of Queensland, 256; of Western Australia, 303; of Tasmania, 328
Abrolhos of Western Australia, 302
Abundance mountain, 240
Acacia downs, 241
Acclimatisation Society, formed, 148
Adam bay, 199
Adelaide, formed, 196; river, 198; capital city of, 199, 200; county, 199; port, 200
Adelong river, 13; town of, 15
Adventure bay, Cook's, 316
Agriculture, progress of, 151; artificial manures and implements, 152; agricultural extension, 152; in New South Wales, 67; in Victoria, 150-160; in South Australia, 212; in Western Australia, 304; in Tasmania, 330
Aitken mountain, 109
Akaroa harbour, 351; head, 351
Akaroa town, 353
Albacuya lake, 110
Albany island, 242; town of, 15, 299
Albert district, 14; river, 109, 241; port, 110; lake, 198; once a bay, 205; downs, 241
Alberton town, 200
Altinia downs, 241
Aldinga town, 200
Aldis peak, 240
Alexander mount, discovered, 102; gold at, 106; mountains, 108

AUS

Alice river, 241
Allendale town, 200
Alligator river, 198, 199
Alligators of Queensland, 258
Alpine diggings, 112
Alps, Australian, 108
Amherst, diggings township, 112
Amity points, 242
Anaki mountain, 109
Anderson's inlet, 109
Angaston town, 200
Anglesey county, 111
Angus river, 198
Antimony mining, 79, 168
Aponiga town, 200
Apsley, height of, 12
Ararat mountain, 198; diggings township, 112
Arden mountain, 197
Argyle county, 14
Armidale, town of, 15
Arrowroot, 73; in Queensland, 269
Arthur county, 316
Arthur mountains, 315; river, 315; peak, 349; port, 316, 317; port, town of, 317
Arthur's Seat, 109
Ashburton mountains, 198; river, 350
Ashby river, 350
Auckland city, 352; province, 352; area of, 352
Auriferous veins in rocks, 24; origin of gold veins, 24
Austin, his explorations, 296
Austin, lake, 299

AUS

Australian Agricultural Company established, 9, 61
 Australian Bight, Great, 198, 299
 Australia, famine in, 6; the natives, 7; the emancipists, 8; mountains of, 12; have a responsible government, 128; once an archipelago, 204; Eastern, no more convicts to be sent to, 10; the new constitution of 1855, 10; botany, 41; South, climate of, 115; *Felix*, discovery of, 102
 Australind town, 299
 Avenel, farming township, 113
 Avoca, diggings township, 112; river, 109
 Avon river, 109, 298, 350; downs, 241

BACCHUS MARSH, farming township, 113
 Backstairs Passage, 199
 Bairnsdale, mining township, 112
 Balhannah town, 200
 Ballan, farming township, 113
 Ballarat, gold at, 106; diggings township, 112; population of, 113; rebellion, 127
 Balonne River, 242
 Banana town, 243
 Banking, 85
 Banks, first, 171; in Victoria, 177; in Adelaide, 224
 Banks, Sir Joseph, 2; strait, 316; peninsula, 353
 Baptists. See *Religion*
 Barcoo river, 237, 241
 Barker, Captain, his explorations in South Australia, 194; mount, 108, 197, 200
 Barkly mount, 198
 Barley, 73
 Barossa mountains, 197
 Barossa town, 200
 Barren isle, 316
 Barrier island, 352
 Barrow's creek, town of, 200
 Barwon river, 12
 Barwon of Geelong, river, 109

BER

Basalt, 24; flows of, 122, 206; in Victoria, 119; in Queensland, 250; age of basalts, 251; in Tasmania, 325; in New Zealand, 363
 Basaltic caverns, 124
 Bass, Mr. Surgeon, his explorations, 313
 Bass's river, 109; straits, sealers in, 102; islands of, 316
 Batesford, farming township, 112
 Bathurst lake, 13; county, 14; town, 14, 15 and 317; island, 199; harbour, 315; mountains, 315
 Bateman's bay, 13
 Batman, John, a Paramatta lad, 104; his company formed, 104; his visit to Port Phillip, 104; his report, 104; makes a treaty with the aborigines, 105
 Bau, native capital of the Fiji Islands, 418
 Baudin, Admiral, in South Australia, 190; claims the country, 101, 190; calls the country Napoleon Land, 190; his claim disallowed, 190; his discoveries, 295, 313
 Baw-Baw mountain, 108
 Bays, of Victoria, 110; of Western Australia, 299; of Tasmania, 315; of New Zealand, 351
 Beaufort, diggings township, 112
 Beechworth, mining township, 112; population of, 113
 Beemerang, 12
 Beenleigh, town, 243
 Belfast, port of, 111; population of, 113
 Bellenden Kerr mountain, 240
 Belvidere mountains, 197
 Belvoir, mining township, 112
 Belyando river, 241
 Benalla, farming township, 113
 Benambra county, 111
 Benanee lake, 13
 Bendigo, gold at, 106; creek, 109; county, 111
 Bennett mountains, 298
 Bentinck island, 242
 Berlin, diggings township, 112
 Berrima iron mine, 15

BER

Berwick, farming township, 112
 Beverley islands, 243
 Bight, the Australian, 198, 299
 Birds, 28, 32, 320, 419; singing, 33;
 bower, 33; wingless, 365, 366;
 aquatic, 368
 Birri-Birri, gneiss-like laminæ at, 23
 Bismuth, 168; and silver mines in
 South Australia, 220
 Blackall town, 243
 Black Bluff mountain, 315
 Blackman river, 315
 Black swans, 294
 Black war in Tasmania, 314
 Blackwood, diggings township, 112;
 river, 298
 Blanche lake, 198
 Blanchewater river, 198
 Blenheim town, 353
 Bligh county, 14; district by Mac-
 quarie river, 14; Captain, opposes
 the rum-trading monopoly, 7;
 his explorations, 313
 Blind bay, 351, 352
 Blowhard mountain, 109
 Blue mountains, salubrity of the, 16
 Blue mountain tier, 12; Lake, 206
 Bluff, the, 351; down, 241; harbour,
 351
 Boga lake, 110
 Bogan aborigines, 5; river, 13
 Bogbutter, 27
 Bogong mountains, 108; county, 111
 Boloke, salt lake of, 110
 Bonnay, salt lake, 198
 Border town, 200
 Borung county, 111
 Boston isles, 199
 Botany Bay, Cook's discovery of, 1;
 as a penal settlement, 2; settle-
 ment of it, 2; first fleet at, 6; the
 bay, 13
 Botany of Australia, 41; of Tasmania,
 320; of New Zealand, 370; of the
 Fiji Islands, 420
 Bothwell town, 317
 Bougainville, cape, 316
 Bourke, Fort, town of, 15; county,
 111
 Bourke, Governor Sir Richard, his
 services, 9; wishes for more

BUN

liberal leases, 62; proclaims Mel-
 bourne, 105
 Bowen downs, 241; river, 241;
 town, 243
 Bowling-Green cape, 242
 Boyd, massacre of the, 344
 Boydtown, 15
 Brady's Look-out peak, 315
 Braidwood, town of, 15
 Branxholme, farming township, 113
 Break Sea Spit, 242
 Bremer river, 198, 242
 Bribia island, 243
 Brickmakers, no place for, 172
 Bridgewater town, 317
 Bridgewater cape, 110
 Brighton, a suburb of Melbourne,
 112; town, 199
 Brisbane, Governor Sir Thomas, his
 views, 9
 Brisbane, the capital of Queensland,
 243; settled, 238; county, 14;
 river, 4, 241, 242; climate, 244
 Broadmeadows, farming township,
 112
 Broad sound, 242
 Broken bay, 3, 13; river, 109
 Broughton river, 198; town, 200, 243
 Brown mountain, 197
 Browns' diggings township, 112
 Brown's river town, 317
 Bruce mount, 298
 Bruny island, 316; mountain, 315
 Brunner, Alpine peak of, 349; lake,
 350
 Brunswick, a suburb of Melbourne,
 112
 Bryan mountains, 197
 Buckingham county, 316
 Buckland, mining township, 112
 Buckley, William, thirty-two years
 with the blacks, 103
 Buffalo mountains, 108
 Building societies in Victoria, 178
 Buke Levu peak, 418
 Bullarook mountain, 108
 Buller river, 350
 Buln-Buln county, 111
 Bundaberg, 243
 Buninyong mountain, 108, 109; dig-
 gings township, 112

BUR

Burdekin downs, 241
 Burdekin river, 241
 Burgess town, 317
 Burke and Wills cross Australia, 226; at Cooper's Creek where they perish, 194; their discoveries, 238
 Burke town, 243
 Burnett district, 240; river, 241
 Burra-Burra coppermines, 196, 219
 Burra county, 199; river, 198
 Burr mount, 200
 Burrumbeet lake, 110; farming township, 112
 Bush pleasures in Queensland, 292
 Bustard Head, 242
 Byron cape, 13

CABOOLTURE TOWN, 243
 Calliope river, 241; town, 243
 Cambridge downs, 241; gulf, 299
 Camden county, 14; town of, 15; sound or harbour, 299
 Campaspe river, 109
 Campbelfield, farming township, 112
 Campbell town, 15, 317; cape, 351
 Camperdown, farming township, 113
 Canabolas, height of, 12
 Cania town, 243
 Candlenut tree, 420
 Canning downs, 241; river, 298
 Canterbury plains, 349; province, 352; climate of, 354; from glacial action, 361
 Cape river, 241; town, 243
 Caper plant, 72
 Capes, of Victoria, 110; of Western Australia, 299; of Tasmania, 316
 Capricorn cape, 242
 Carboniferous rocks, 25; of Queensland, 248
 Cardwell, town of, 243
 Carisbrook, farming township, 113
 Carlton, a suburb of Melbourne, 111
 Carngham, farming township, 113
 Carpenteria, gulf of, 198, 199, 240, 242
 Carpenter, the Dutch Governor-General of Java, 225, 235

CLU

Carstens, Hans, his discoveries, 225
 Casino, town of, 15
 Casterton, farming township, 113
 Castle hill, height of, 108
 Castlemaine, diggingtownship, 112; population of, 113
 Castlereagh river, 13
 Castor oil plant, 420
 Cattle, trade in, 64
 Cave deposits, 23
 Cawndilla lake, 13
 Cecil downs, 241
 Ceres of Barrabool hills, farming township, 112
 Champion bay, miners at, 298, 299
 Charleville town, 243
 Charlotte Springs, town of, 200
 Charters Towers, town of, 243
 Chatham isles, 352
 Chiltern, mining township, 112
 Chinese, labour, 50; suffer more than Europeans, 134; their emigration to Victoria, 134; farming, 159; diggers, 165; population of, in Victoria, 131; S. Australia, 209; Queensland, 257
 Christchurch, 353
 Church and School Corporation Act, 52; the Act repealed, 53
 Circular head, 316
 Claremont isles, 243
 Clarence district, discovery of the, 5; harbour, 13; river, 13; North-east district, 14; straits, 199
 Clare town, 199, 200
 Clarke river, 241; island, 316
 Clermont town, 243
 Cleveland bay, 242; cape, 242
 Climate of New South Wales, 16; of Victoria, 113; of South Australia, 200; of Queensland, 244; of Western Australia, 299; of Tasmania, 317; New Zealand, 353; of the Fiji Islands, 422
 Clinton cape, 242
 Cloncurry river, 241
 Cloudy bay, 350, 352
 Clunes, diggings township, 112; population of, 113
 Clutha, or Molyneux, river, 350

CLW

Clwyd, Vale of, 3
 Clyde river, 315
 Coal in New South Wales, 25; coal rocks of three ages, 26; area of working fields, 79, 120; extent of coalfields, 80; at Newcastle, 21, 80; coal leases, 81, 169, 334; other coalfields, 81; coal raised and exported, 81; rent and area of coal leases, 81; coal area, 82; advantages for manufactures, 87; hope of, 120; coal plants, 125; coal prospecting, 181; in South Australia, 220; Mesozoic coal in Queensland, 249; beds there, 249; coal mining in Queensland, 279, 280; in Western Australia, 302, 307; of Tasmania, 323, 326; mines, 334; of New Zealand, 360, 395
 Coal river, 315
 Cobalt, 168
 Cobboras mountains, 108
 Colac lake, 110; farming township, 113
 Cole mountain, 108
 Coleraine, farming township, 113
 Coleridge lake, 350
 Coliban river, 109
 Colleges, Denominational, 140
 Collingwood town, 352; a suburb of Melbourne, 111
 Collins, Captain, to be Lieutenant Governor of Port Phillip, 103; his ill-assorted party, 103; his abandonment of Port Phillip, 103; settles Hobart Town, 314
 Colville cape, 351
 Comet river, 241
 Common rights, 184
 Condamine river, 242; town, 243
 Connewarre, sea-lake of, 110
 Conway cape, 242
 Cook, Captain, his discovery of Botany Bay, 1; his first fleet at, 6; his discovery of Victoria, 101; his explorations, 235, 313; first circumnavigated New Zealand, 343
 Cook's Adventure bay, 316
 Cook county, 14; district, 240; mount, 349

CUE

Cooper port, 351
 Cooper's creek, 198, 241, 242; Burke and Wills at, 194
 Coorong lake, 198
 Copperfield town, 243
 Copper leases in South Australia, 228
 Copper mines, 79, 168, 277
 Copper mining in South Australia, 219; Burra-Burra mines, 219; Moonta lodes, 219; principal mines, 220; export of, 220; in Western Australia, 306; in New Zealand, 395
 Coral reefs, 419
 Corangamite, salt lake of, 110
 Corinella, farming township, 112
 Corner inlet, 110
 Corn in Queensland, 269
 Cornwall county, 316
 Coromandel mountains, 349
 Cotton growing in Queensland, 270, 271; in the Fiji Islands, 423
 Councils, revenue, and debt of Tasmania, 326
 Coxen mountain, 240
 Crackemback, height of, 12
 Cradle mountain, 315
 Cranbourne, farming township, 112
 Crawford mount, 197; town, 200
 Crescent lake, 315
 Cressy, farming township, 113
 Creswick, diggings township, 112
 Croajingolong county, 111
 Crocodile town, 243; island, 316
 Crops and fruit in Queensland, 270
 Crops and prices in South Australia, 214
 Crown lands, 62
 Cullarin, the, 12
 Cultivation increasing more than population, 158
 Cumberland county, 14, 316; isles, 243
 Cunningham, Mr. Allan, 4; murdered, 5; at the Darling downs, 236
 Curdie river, 109
 Curtis island, 243, 316; Port district, 240, 242; the port drained, 241

CUS

Customs and habits of the Fijians, 423
Cygnet, port, 316

DAINSTREE MOUNTAIN, 240
Dairy farms, 158
Dalby town, 243
Dalhousie county, 111
Dalrymple town, 243; port, 315
Daly Waters, town of, 200
Dampier archipelago, 299
Dampier, his discoveries, 294
Dandenong mountains, 108; farming township, 112
Danger, point, 13, 242
Dargal mount, 12
Dargo county, 111
Darling district, exploration of the, 4; south-west, 14
Darling downs, 242, 298; district 240; river, discovery of the, 4; explored, 5, 12, 242; eastern affluents of the, 13
Darling, Governor, his reign, 9
Darwin, port, 199
Dasyurus, 28
Davey, port, 315
Dawson river, southern, 241
Daylesford, diggings township, 112; population of, 113
Dee river, 315
De Grey river, 298
Delatite county, 111
Deloraine town, 317
Deniliquin, town of, 15
Denison mountain, 198; plains of Western Australia, 298; port, 242
D'Entrecasteaux, Admiral, his explorations, 313; channel, 315, 316
Denudation in Victoria, 118
Derwent, country of the, 103; river, in Tasmania, 318, 315
Deserts in Queensland, 252; desert sands and sandstone, 252; in Western Australia, 296, 298
Devil, bones of the, 125; native, 319
Devil's tower, 316
Devon county, 316
Devonian rocks, 119, 248

EAS

De Witt island, 316
Diamonds, 169
Digby, farming township, 113
Diggings townships, 112
Dingo, a native dog, 31, 125, 365
Dinornis, a monster fossil bird, 254
Diprotodon, 27, 125, 206; of Queensland, 254
Direction cape, 242
Diseases in Australia, 17
Doddington castle, mining township, 112
Dog, wild, 31, 125, 365
Don river, 315
Dorset county, 316
Double point, 242
Douglas river, 315
Dover town, of Esperance bay, 317
Drayton town, 243
Dromedary mountain, 315
Drought, 159
Dryander mountain, 240
Dry's bluff, 315
Dubbo, town of, 15
Dumaresq river, 11, 242
Dundas mountains, 109, 298; county, 111
Dundas, settlement of, formed on Melville island, 226
Dunedin, 351; town, 353
Duneed, farming township, 112
Dunkeld, farming township, 113
Dunolly, diggings township, 112
Dunstan mountains, 350
Durham county, 14
D'Urville, his discovery, 416
D'Urville island, 352
Dutch discoverers, 294
Duties of New South Wales, 84; list of articles, 84
Dysodile, in Tasmania, 323

EAGLE HAWK, diggings township, 112
Eagle Hawk Neck, 316
Earnslaw mountain, 350
Earthquakes in New Zealand, 358, 364; in the Fiji Islands, 419
East cape, 351
East coast portion, rivers of, 10

EAS

Eastern division, extent and population of, 11
 Echo, lake, 315
 Echuca, mining township, 112
 Echunga town, 200
 Eccles mountain, 109
 Eden, town of, 15
 Edgar lake, 315
 Edgecumbe, cape, 242; volcanic peak, 349
 Education: — Better grants with growth of freedom, 53; National School Board, 54; schools and scholars, 54; Sydney University established, 55; in Victoria, 135; in South Australia, 210; in Queensland, 262
 Education and religion of Tasmania, 329; in New Zealand, 382
 Edward, crater lake, 198
 Egerton, diggings township, 112
 Egmont cape, 351
 Egmont, volcanic crater of, 349
 Einasleigh river, 241
 Eldon mountain, 315
 Electoral provinces and districts of Victoria, 111
 Electors, 47; unmarried female land, 231
 Elephant mountain, 109
 Elizabeth river, 315
 Eliza mountain, 109; salt lake, 198
 Ellesmere, or Waihora of Canterbury, sea lake of, 350
 Elliot, port, 199; town, 200; mountain, 240
 Emerald downs, 241
 Emerald hill, a suburb of Melbourne, 111
 Emigrants, hints to, 94, 188, 232, 289, 310, 340, 412
 Emigration to New Zealand, 410
 Emu bay, 315; police district, 316; town, 317; river, 315
 Encounter bay, 198; town, 200
 Endeavour river, Captain Cook in, 235; strait, 242
 Episcopalians. See *Religion*
 Eredia, visits Queensland, 235
 Esk, North, river, 315; South, river, 315

FAR

Essendon, a suburb of Melbourne, 112
 Essington port, 199, 227
 Eucla port, 299
 Evandale town, 317
 Evans, Surveyor-General, reaches the Lachlan river, 3
 Evelyn county, 111
 Evergreens, 41, 370
 Exe river, 109
 Exports: seaward, 83; overland trade, 83; imports and exports per head, 84; of New South Wales, 84; Victoria, 174; South Australia, 223; Queensland, 281; Western Australia, 307; Tasmania, 336; New Zealand, 397; Fiji Islands, 424
 Eyre lake, 198
 Eyre, Mr., his explorations, 194; his journey overland for 1,200 miles, 194, 295

FAIRY, PORT, 110
 Families, their removal to the colonies, 100
 Farewell, cape, 351
 Farmers, a settlement of Scotch, 67
 Farmers, hints to intending, 98; colonial farming, 98; good and bad, 151; helped by the capitalists, 151; progress of agriculture, 151; old state of farming, 152; little land open for farms, 153; large farms increasing, 153; yield per acre, 155; fallow land, 156; variety of cropping, 156; prices, 156; occupied and enclosed acres, 156; acres tilled, 156; average of 1879, 156; yield varies in the counties, 156; rain and potatoes, 157; best localities, 157; Victoria and New Zealand farming, future, 157; farina mills, 157; vines and wines, 157; sericulture, 158; farm improvements and implements, 158; stock-keeping, 158; dairy farms, 158; stock, 159; drought and irrigation, 159; Victoria, 189; South Australia, 212; Queensland, 290; Western

FAW

Australia, 310; Tasmania, 340;
New Zealand, 413
Fawkner, J. P., his scheme, 104;
arrives at Yarra-Yarra, 105; rise
of the town of Melbourne, 105
Female emigrants, 97, 186
Females, in Victoria, 131; propor-
tion of them, 131; more females
than males, 132
Fiery creek, 109
Fiji Islands, annexation to Great
Britain, 416; discovery and his-
tory, 416; Wesleyan Missionaries
in, 417; white settlers in, 417;
government, 417; geographical
feature, 418; islands, rivers, and
mountains, 418; coral-reefs, 419;
geology, 419; earthquakes, 419;
natural history, 419; botany, 420;
climate, 422; rain, 422; hurri-
canes, 422; fevers, 422; popula-
tion, 422; customs and habits,
423; commercial products, 423;
cotton, sugar, and tobacco, 423;
sheep and cattle, 423; exports and
imports, 424; price of land, 424;
shipping, 424; the capital, 424
Fingal town, 317
Fishes, 38, 368, 420; edible, 38;
freshwater, 39, 369
Fitzmaurice river, 198
Fitzroy, a suburb of Melbourne, 111;
river, 241, 298
Flattery, cape, 242
Flat-topped hills of Australia, 253
Flax in New Zealand, 72, 397; in
South Australia, 216
Fleeces, heavy, 148
Flinders bay, 299
Flinders, Captain, his discovery of
South Australia, 190; at More-
ton Bay, 236; his discoveries, 295
Flinders mountains, 197; county,
199; group, 199; river, 241;
island, 316
Florentine river, 315
Flowers, 45, 320, 370, 422
Fluted cape, 316
Follett county, 111
Footscray, a suburb of Melbourne, 111
Forbes, town of, 15

GEO

Forest hill, height of, 108
Forrest's discoveries, 296
Fortescue river, 298
Forth river, 315
Fossils of New South Wales, 27;
cave, 27; of Victoria, 124; of
South Australia, 204; monster
mammals in South Australia, 206;
of Queensland, 253; of Tasmania,
326; of New Zealand, 364
Foulwind, cape, 351
Fowler bay, 198; town of, 200
Franklin river, 315; police dis-
trict, 316; town, 317; county,
316; mountain, 108, 109, 315;
mount, 349
Frederick bay, 316; port, 315
Freedom, progress of, 47
Freeling, mount, 200
Freemantle, port of, 299
French island, 110
Frenchman's cap mountain, 315
Frome county, 199; river, 198
Fruits, 44, 74, 421
Fryer river, 109
Furneaux, Captain, his explorations,
313; isles, 316
Fyansford, farming township, 112

GAINSFORD TOWN, 243
Gairdner lake, 198; mountains, 298
Gambier mount, volcanic crater
of, 197; crater lake, 198; district,
199; town, 200; lakes on, 206
Gantheaume bay, 299
Gardiner, Mr. John, the first over-
lander, 148
Gascoigne river, 298
Gawler, Governor, his works, 196;
chain, 198; mountain, 197; town,
199, 200; river, 198
Gayndah town, 243
Geelong, 111; Mr. Westgarth on,
172; of the natives, discovery of,
102; population of, 113
Géographe bay, 299
Geology of New South Wales, 21; of
Victoria, 116; of South Australia,
204; of Queensland, 246; of
Western Australia, 300; of Tas-

GEL

mania, 321; of New Zealand, 358; of the Fiji Islands, 419
 Gellibrand, Mr., joins John Batman at Port Phillip, 104; his desires, 104
 Gellibrand river, 109
 George, salt lake, 198; river, 315; town, 317
 Georgetown, police district, 316
 Geraldton, town, 299
 German element in the population of South Australia, 209, 234
 Gibbo mountains, 108
 Gilbert or Van Diemen river, 241
 Gipps, Sir George, comes into collision with the squatters, 9
 Gipps land, discovered by Count Strzelecki, 102; height of, 12; rivers, 109; lakes, 110; frontier diggings at, 112; climate of, 113; advantages of, 160
 Gisborne mountain, 109; farming township, 112
 Glaciers and moraines in New Zealand, 361
 Gladstone county, 111; town, 243
 Glamorgan county, 316
 Glasgow mountain, 109
 Glasshouses mountain, 240
 Glenarchy town, 317
 Glenelg river, 109, 299; discovered, 102
 Glenorchy, farming township, 113
 Gloucester county, 14
 Gog and Magog hills, 315
 Gold:—Alluvial, 23; the diggings brought a good market, 69; the first gold-field, 75; licenses for miners, 76; progress of mining machinery, 76; extent of the eighty gold-fields, 77; gold mining improving, 77; export of, 77; gold coin, 77; quartz mining, 77; gold localities described, 78; extent of a digger's claim, 78; leases of auriferous land, 78; rentals, 78; discovery of, 106; effects of the gold fever, 106; history of the gold discovery, 160; source and age of, 125, 163; nuggets, 163, export of, 164; licenses and duty, 165; mining boards, 165;

GRE

number of diggers, 165; quartz mining, 165; mining companies, 166; yield per ton, 166; men employed, 167; gold leases, 170; in South Australia, 220; gold regulations, 220; in Queensland, 240, 253, 276, 277; in Queensland diggings, 277; in Tasmania, 384; in New Zealand, 393
 Gold-fields, 11, 22
 Goolwa passage, 199, 200
 Goulburn, 14, 15; mountains, 108; river, 109
 Gordon river, 315
 Gordons, diggings township, 112
 Gourock, the, 12
 Government of New South Wales, 45; of Victoria, 126; of South Australia, 207; of Queensland, 254; of Western Australia, 302; of Tasmania, 326; of New Zealand, 373; of the Fiji Islands, 417
 Grafton, town of, 15; cape, 242
 Grahamstown, 352
 Grampian hills discovered, 102
 Grampians, geology of the, 118
 Granite, 23; in South Australia, 205; of Queensland, 246; localities for, 247; of Tasmania, 322
 Granite of all varieties, 120, 121
 Grant, Lieutenant, his discoveries, 101
 Grant cape, 110; county, 111
 Grape, see Wine
 Graptolites, 124
 Grass-cloth plant, 72
 Grasses, English, 72, 372
 Great lake, 315
 Greenock mountain, 109
 Greenough river, 298
 Greenponds, town of, 317
 Greenstone, 25, 250
 Greenstone, or diorite, in Queensland, 249; in N. Zealand, 360
 Greenstone in Tasmania, 325
 Greenstones, 121
 Gregory, Mr. A. C., his discoveries, 194
 Gregory, the brothers, their discoveries, 296

GEE

Gregory district, 240; downs, 241; river, 241
 Grenville, cape, 242
 Grenville county, 111
 Grey's Barrier range, 197; county, 199; river, 298, 350
 Grey, Captain, his discoveries, 295
 Grey, Earl, elected member for Port Phillip, 127
 Grey, Governor, his administration, 196
 Greymouth town, 352
 Grim, cape, 316
 Groote Eyland island, 199
 Guildford, town, 299
 Guinea, New, 242
 Gulf islands, 242
 Gummeracha town, 200
 Gunbower county, 111
 Gundagai, town of, 15
 Gwydir river, 5, 13; district, 14
 Gympie town, 243; mines, 276

HACKING, PORT, 13
 Hahndorf town, 200
 Hahn river, 241
 Halifax bay, 242
 Hamilton of the Grange, farming township, 113
 Hamilton town, 317
 Hampden county, 111
 Hampshire hills, 315
 Hanging Rock, height of, 12
 Harrow, farming township, 113
 Hartog, Dirk, island, 299
 Hastings river, 3, 13; town of, 15
 Hauraki, gulf of, 351, 352
 Hawdon salt lake, 198
 Hawea lake, 350
 Hawke's bay, 351; province, 352
 Hawkesbury river, 13
 Hawthorne, a suburb of Melbourne, 111
 Hayes, Captain, his explorations, 313
 Hay, town of, 16
 Heat at various places, 19, 114, 200, 245, 300, 317, 355
 Heathcote of McIvor, diggings township, 112

HUN

Heidelberg, a suburb of Melbourne, 112
 Hellyer river, 315
 Henry bay, 316
 Henty family, the, 102; at Portland bay, 104
 Hepburn of Jim Crow, diggings township, 112
 Herbert river, 241
 Herbertsville town, 243
 Hervey bay, 242
 Hexham, farming township, 113
 Heytesbury county, 111
 Heywood, farming township, 113
 Hibbs, point, 316
 Highland district, the, 11
 Hillesborough, cape, 242
 Hinchinbrook island, 243
 Hindmarsh, Captain, appointed Governor, 196
 Hindmarsh lake, 110; river, 198; county, 199
 Hobart police district, 316; town, 314, 316
 Hoddle mountains, 108
 Hokianga bay, 351
 Hokianga town, 352
 Hokitika river, 351
 Holland, New, 1
 Hope lake, 198
 Hopeless, mount, 197
 Hopkins river, 109
 Horrocks mountain, 197
 Horses and cattle in Queensland, 265
 Horses boiled down for tallow, 150
 Horses, trade in, 64
 Horsham, farming township, 113
 Hot springs, 419
 Hot winds in Victoria, 114; of South Australia, 200; of Tasmania, 317
 House rent, 94
 Hovell, Captain, his explorations, 102
 Howe, cape, Captain Cook off, 1
 Howe, cape, 13, 110
 Howqua river, 109
 Hume, Hamilton, his explorations, 4, 102
 Hunter county, 14
 Hunter, Governor, his introduction of free immigrants, 6

HUN

Hunter, port, 13; river, 13
 Hunter's isles, 316
 Huntly, diggings township, 112
 Hurricanes in the Fiji Islands, 422
 Hutt mountain, 349; river, 350
 Hutton volcanic cone, 240
 Huon river, 315
 Hythe of Southport, town of, 317

IDA MOUNTAIN, 108

Igneous rocks, 24
 Igneous rocks of Tasmania, 325
 Ilfracombe town, 317
 Illawarra, 13; district, discovery of, 2, 3; hills, the, 12; bay, 13
 Immigration:—New South Wales, 89; Scotch mechanics in 1806, 90; appeal to intending emigrants, 91; a colonial statesman's opinion, 91; to Victoria, 185; to South Australia, 232; to Queensland, 287; to Western Australia, 310; to Tasmania, 339; to New Zealand, 410

Imphee, 75; of Queensland, 273
 Imports:—New South Wales, 82; articles imported, 83; Victoria, 173; South Australia, 223; Queensland, 281; Western Australia, 307; Tasmania, 336; New Zealand, 397; Fiji Islands, 424
 Independents, or Congregationalists. See *Religion*

Indigo river, 109; mining township, 112
 Inglewood, diggings township, 112
 Inglis river, 315

Inland seas, suspected, 3; not found, 5
 Inman river, 198; valley, town of, 200
 Insects, 39, 370, 420

Insolvencies in Victoria, 178
 Invercargill town, 353
 Inverleigh, farming township, 112
 Investigator's group, 199
 Ipswich settled, 238
 Iron, very promising, 79
 Iron ores, 168; meteoric, 168; of Queensland, 278; in New Zea-

KAP

land, 395; mines in Tasmania, 335
 Iron-stone in Western Australia, 307
 Irrigation, 159
 Irwin bay, 299; river, 298
 Isaacs river, 241
 Isis downs, 241; river, 315
 Islands, bay of, 351, 362
 Islands of Victoria, 110; of South Australia, 199; of Tasmania, 316; of New Zealand, 351; of Fiji, 418

JACKSON, PORT, settlers at, 2

Jackson, port, 6, 18; position of, 18; bay, 351
 Jacob's river, 351
 Jagunjal, height of, 12
 James town, 200
 Jamieson, mining township, 112
 Jarrett, Rev. W., 57
 Jericho, diggings township, 112
 Jericho town, 317
 Jerusalem, town of, 317
 Jervis bay, 13; cape, 199
 Jews, no aid to their synagogues, 143
 Jim Crow mountains, 108; river, 109
 Jiondulian, height of, 12
 Johnson, Rev. Mr., his first church, 7; first chaplain, 55
 Johnston, Major, deposes Governor Bligh, 7
 Jordan river, 315
 Jury, trial by, 46

KADINA TOWN, 199

Kaiapoi town, 353
 Kaikaro, mount, 349
 Kaiserstuhl mountain, 197
 Kakaia river, 350
 Kandavu island, 418
 Kangaroo, gigantic remains of a, 125
 Kangaroo island, discovery of, 190 settled, 190; land pastoral district, 199
 Kapiti, or Entry island, 352
 Kapunda town, 199, 200

KAR

Kara-Kara county, 111
 Karkarooc county, 111
 Kawia harbour, 382
 Keilor, farming township, 112
 Kennedy, Mr., Surveyor, his discoveries, 238; speared, 238
 Kennedy district, 240
 Kensington town, 199
 Kent mountain, 108; county, 316
 Kent's islands, 316
 Keppel bay of Fitzroy river, 242; cape, 242
 Kermadée, Captain, his explorations, 318
 Kerosene oil, 26, 81; shale in Queensland, 249
 Kew, a suburb of Melbourne, 111
 Kiama, town of, 15
 Kilkivan town, 243
 Kilmore mountains, 108; farming township, 113
 King, Captain, his discoveries, 225, 295
 King county, 14; lake, 110; island, 316; volcanic cone, 240
 King George's sound, 299
 King, Governor, 101
 Kingower, diggings township, 112
 Kingscote town, 200
 Kingston, farming township, 113; town of, 200
 Kooringa of Burra-Burra, town of, 200
 Koro island, 418
 Koroit of Tower Hill, farming township, 113
 Korong river, 109; diggings township, 112
 Kosciuako mount, 12; sienite, 23
 Kyenneruf mountain, 298
 Kyneton, farming township, 113

LABYRINTHODON of Victoria, 125
 Lacepede bay, 199
 Lachlan river, 8, 18; district, 14
 Lacustrine deposits of New Zealand, 360
 Lady bay, 110
 Lagoons, valley of, 241, 419

LEI

Laguna bay, 242
 Lakemba island, 417, 418
 Lake river, 315
 Lakes in Victoria, 109; salt, 110; fresh, 110; once craters, 124; in South Australia, 198; of Tasmania, 315; in Western Australia, 299; of New Zealand, 350
 Lancefield, farming township, 113
 Landesborough creek, 241
 Land, lawless occupation of crown, 62; Crown Land Commissioners appointed, 62; licenses issued, 63; land laws of New South Wales, 87; Victoria, 181; South Australia, 229; Queensland, 283; Western Australia, 308; Tasmania, 338; New Zealand, 402; Fiji Islands, 424; grants and quit-rents, 87; grants to capitalists, 87; a million acres given to a company, 87; price of land, 87; sold and unsold land, 88; mineral and pastoral land, 88, 89; leases and length of runs, 89; cheap food by cheap land, 151; Land Act of 1862, 183; Land Act of 1869, 183; land fees, 184; land sales, 184; leases, 184; landholders, 185; land in Australia still rising, 204; sales and leases, 229, 230; credit system, 230; pastoral leases, 231
 Lang, Rev. Dr., objects to toleration, 56; his cry for separation, 127; induces British emigrants to settle in Queensland, 238
 Latrobe, Mr., appointed superintendent on the Yarra, 105; first governor of Victoria, 106, 127
 Latrobe river, 109
 Launceston settled, 314; town, 317
 Lead mines, 168; silver mines, 306; Geraldine mine, 306
 Leake, crater lake, 198
 Learmouth lake, 110; farming township, 113
 Leases, the first, 62; for working gold, coal, iron, &c., 78, 81, 170
 Leeuwin, cape, 299
 Leichhardt, Dr. Ludwig, his discoveries, 221, 226, 287

LEI

Leichhardt mount, 198; district, 240; downs, 241; drained, 241; river, 241
 Leigh river, 109
 Lethbridge, farming township, 113
 Levuka, capital of the Fiji Islands, 424
 Lexton of Burn Bank, diggings township, 112
 Leyburn town, 243
 Liberty, results of, 47
 Libraries, free state, 141
 Licenses, mineral, 169; water-right licenses, 170; squatting, 63
 Light river, 198; county, 199
 Lincoln port, 199; town of, 200; native settlement at, 210; county, 316
 Lindsay, height of, 12
 Linton, diggings township, 112
 Lion, the butcher-pouched, 125
 Liptrap cape, 110
 Liverpool plains, discovery of the, 8; range, 12; area of, 14; town of, 15; river, 198
 Lizard island, 248
 Lizards, huge fish, 254
 Llamas and alpacas, 148
 Loan fund, 48
 Lockwood, farming township, 113
 Lockyer, Major, his explorations, 4
 Loddon river discovered, 102, 109; district of, 110; squatting district, 111
 Loft mountain, 197
 Loft range, 197
 Logan river, 242; town, 243
 Lomond, Ben, 12, 313
 Londonderry, cape, 299
 Longford town, 317
 Long point, 316
 Lonsdale, cape, 110
 Lonsdale, Captain, appointed as commandant on the Yarra, 105
 Look-out point, 242
 Lowan county, 111
 Lyell mount, 349
 Lynd river, 241
 Lyttleton, port, 353

MAR

MACALISTER RIVER, 109
 Macarthur, Mr. John, founder of Australian squatting, 60
 Macarthur river, 198
 Macedon, mount, discovered, 102; mountains, 108
 Macclesfield town, 200
 Macdonnel mountain, 198; port, 199, 200
 McIntyre river, 11, 242
 McIvor mountains, 108
 Mackay town, 243
 Mackenzie river, western, 241
 M'Kinlay mountains, 240
 Macleay, east, district, 14; river, 13
 McMillan, Mr. Angus, his discovery, 102
 Macquarie county, 14
 Macquarie, General Lachlan, his appointment, 8
 Macquarie, Governor, called the 'Prisoner's Friend,' 9
 Macquarie river, traced to a marsh, 3, 4; port, established, 3; river, 13, 315
 Maffra, farming township, 112
 Magnetic island, 243
 Magnetic variation of places in South Australia, 203
 Maitland, town of, 15
 Maize, 71, 72, 269
 Maldon of Tarrengower, diggings township, 112
 Malmsbury, farming township, 113
 Malvern hills, 349
 Manganese, 168
 Manifold, cape, 242
 Manning river, 13
 Mansfield, farming township, 113
 Mantuan downs, 241
 Manufactures progressing, 86; of Victoria, 180; of South Australia, 222, 223; of Queensland, 282
 Manukau harbour, 351
 Maories, the, 380-382
 Maranoa district, 240
 Margaret mount, 200
 Maria isle, 312, 316
 Maria Van Diemen, cape, 351
 Marion bay, 316

MAR

Marion, Captain, his explorations, 313; killed and eaten, 343
Marlborough town, 243; province, 352
Marsden, Rev. Samuel, of Sydney, 7
Martha mountains, 109
Martin's bay, 351
Marulan, town of, 15
Maryborough, diggings township, 112; population of, 113; town, 243
Maryland, town of, 15
Mary river, 241
Maryvale town, 243
Massacre bay, 343, 351
Matlock, diggings township, 112
Meander or Western river, 315
Meat-preserving, 65, 150, 265; improved freezing process, 65; nearly ended in Victoria, 150
Melbourne, founder of, 103; rise of the town of, 105; first government, 105; commandant arrives, 105; Mr. Latrobe superintendent, 105; Governor Bourke proclaims the town, 105; losses in consequence, and subsequent recovery, 106; city of, 111; population, &c., of, 111, 113; temperature of, 114; mean heat of, 114; rain, 114, 115; geology of, 115; rainfall for ten consecutive years, 115; ozone at, 115, 116; first Sunday service in, 142; the mint, 178
Melton, farming township, 118
Melville bay, 199; island, 199; cape, 242
Menindie, town of, 15
Mercer mountain, 109
Mercury bay, 351
Meredith, farming township, 118
Merino, farming township, 113
Mersey river, 315
Mesozoic formations in Victoria, 119; rocks of Queensland, 248
Metamorphic rocks of Queensland, 248
Methodists. See *Religion*
Middle-aged, openings for the, 100
Milfordhaven, 351
Miller's Bluff, 315
Millewa county, 111

MOU

Miners' Rest, farming township, 118
Mining, in New South Wales, 75; in Victoria, 159; in South Australia, 219; in Queensland, 276; in Western Australia, 306; in Tasmania, 333; in New Zealand, 395
Minister of Education, 139
Mint, Melbourne, 177
Miocene, not auriferous, 122
Mitchell district, 240
Mitchell, Major, his discoveries, 5, 102, 236; on the geology of Victoria, 116
Mitchell river, 109, 241
Mittagong, town of, 15
Mitta-Mitta river, 109
Moa, the, 364
Moama, town of, 16
Moira county, 111
Mokau river, 350
Moliagul, diggings township, 112
Monaro plains, 5; mountain, 12; district, 14; south-east, 14
Monmouth county, 316
Montagu county, 316
Montgomery county, 316
Moonie river, 242
Moonta town, 200; copper mines, 219
Moore lake, 299
Moraines in Tasmania, 324
Moresby's flat-topped mountains, 298
Moreton bay discovered, 4, 11, 235, 242; district, 240; cape, 242
Moreton island, 243
Morinish town, 243
Mornington county, 111
Morpeth, town of, 15
Morphett vale, town of, 200
Mortgages in Victoria, 178
Mortlake of Mount Shadwell, farming township, 113
Moura bay, 13; town of, 15
Mountains of New South Wales, 12; of Victoria, 108; of South Australia, 197; of Queensland, 240; of Western Australia, 298; of Tasmania, 314; of New Zealand, 349

MOU

- Mountmorris bay, 199
 Mud craters, 25; inflammable, 27
 Mudgee, town of, 15
 Mueller, Baron von, his explorations, 296
 Mueller mountains, 240, 298
 Muirhead, volcanic crater of, 198
 Muniong mountain, 12
 Murchison mountain, 198; river, 298; settlers at, 299; mount, 349
 Marragural, height of, 12
 Murray, Lieutenant John, his discoveries, 101
 Murray river, explored, 4, 5, 12, 13, 109, 198, 199, 205; its depth in places, 205; mountains, 12; county, 14; town of, 15; inhabited by fresh-water fish, 39; district of the, 110, 111
 Murrumbidgee river discovered, 4, 13; mountains, 12; district, 14
 Murrurundi, town of, 15
 Museum, public, of Melbourne, 140
 Muswelbrook, town of, 15

N AIRNE TOWN, 200

- Namosi, in Vita Levu, 419
 Nanango town, 243
 Naomi river, 13
 Napier mountain, 109; capital town of, 352
 Narrawong, farming township, 113
 Narrien mountain, 240
 Natal down, 241
 National School Board, 136; of Victoria, 136
 Natural history of Australia, 28; of Tasmania, 319; of New Zealand, 364; of the Fiji Islands, 419
 Naturaliste cape, 299
 Neales river, 198
 Nebo town, 243
 Nelson, cape, 110; province, 352; town, 352
 Nepean cape, 110
 Nevis, Ben, 108, 315, 349, 350
 Newcastle, station of, established, 3, 14; coal port, 18; town of, 15; bay, 242

NEW

- New England, Mr. Oxley's surveys in, 3; district, N. Tableland, 14
 Newland mountain, 197
 New river, 351
 New South Wales, the parent colony, 1; exploration of, 5; origin of a free people, 8; emancipists *versus* free immigrants, 8, 9; a perfect sheep and cattle mania at, 9; loses Moreton bay, 10; loses Port Phillip district, 10; list of governors, 10; geography and climate of, 10; rivers and lakes of, 12; bays and capes, 13; counties and districts, 13; pastoral districts of, 14; police districts of, 14; towns, 14; climate of, 16; rainfall, 16; diseases, 17; geology of, 21; fossils of, 27; cave fossils, 27; fossil kangaroo, 27; natural history, 28; government of, 45; early society, 45; population of, 48; bond and free, 48; a settled-down society, 50; the aborigines, 50; education and religion, 51; pastoral, 58; agriculture in, 67; fertile land in, 68; mining in, 75; immigration to, 89; advantages of colony, 90; so called by Capt. Cook, 236; manufactures, 82
 Newstead, farming township, 113
 Newtown, 317
 New Zealand, discovery and history of, 343; a consul at the Bay of Islands, 344; the New Zealand Company, 345; payment for land, 345, 346; treaty of Waitangi, 346; establishment of the colony, 346; war with the settlers, 347; settlement of Auckland, Wellington, and Otago, 348; Canterbury Association established, 348; geography and climate, 348; mountains, lakes, and rivers, 349, 350; bays, capes, islands, divisions, and towns, 351, 352; climate, 353; hot winds, 354; temperature of different towns, 355; rain and moisture, 356; earthquakes, 358; geology, 358; once united to Australia, 364; natural history,

NGA

364; botany, 370; government, 373; fertility of soil, 373; debt, 374; revenue and expenditure, 374, 375; population, 376; the Maories, 379; education and religion, 382; agriculture, 384; farming, 385; corn, 386; oats and potatoes, 387; grasses, 388; products, 389; pastoral, 389; stock, 391; wool, 392; meat-preserving, 392; mining, 393; railways and telegraphs, 398; banks, 398; manufactures, 399; land laws and immigration, 402; hints to emigrants, 412
 Ngau island, 418
 Nicholas, mount, 315
 Nicholson mountain, 240; river, 241; port, 351
 Nickol bay, 299
 Nive river, 315
 Noalunga town, 200
 Nogoa river, 241
 Noorat mountain, 169
 Noosa head, 242
 Norfolk bay, 316
 Norfolk island, Pitcairn Islanders at, 6; Rose hill, or Parramatta, 6, 351
 Norfolk, New, town of, 317
 Normanby county, 111
 Norman river, 241
 Norman town, 243
 North cape, 351
 North-eastern pastoral district, 199
 Northern coast range, 12; pastoral district, 199
 Northern territory of S. Australia, 225
 Northumberland county, 14
 North-west bend, town of, 200; point, 316
 Norwood town, 200
 Notatherium, 27
 Nuyt's archipelago, 199; his land discovered, 294
 Nuyt, cape, 299

O ATLANDS TOWN, 317
 Oats, 73

PAS

Oil of New Zealand, 398
 Olives in South Australia, 216
 Omeo, lake, 110; mining township, 112
 Onkaparinga river, 198
 Oolite, absence of, 120
 Ophir, mines of, 15
 Oranges, 74
 Orange, town of, 15
 Orion downs, 241
 Orphan school, female, established, 52; male, 52
 Osmond, Glen, town, 200
 Otago, elevated district around, 350; harbour, 351; province, 352
 Otway, cape, discovery of, 101, 110
 Ouse river, 315
 Ovalau island, 418
 Ovens river, 109; district, rain in the, 114
 Oxford down, 241
 Oxley, Mr., Surveyor-General, his survey, 3; his supposition of an inland sea, 3; discovers the Liverpool plains and the Peel and Hastings rivers, 3; his discoveries in Queensland, 236
 Oxley's peak, 12; height of, 12
 Oyster bay, 316; cove, 316
 Ozone in New South Wales, 19; at Melbourne, 115; uses of, 116; in Tasmania, 319

PALÆOZOIC HILLS, 22; formation, area of, 118; forms, 124;
 Palliser bay, 351; cape, 351
 Palmerston town, 200; cape, 242
 Parenangrena harbour, 351
 Parliament, formation of, 47; and the franchise in Queensland, 255
 Paroo river, 242
 Parramatta, location of, 6, 14
 Parraroo town, 200
 Pastoral affairs, history:—New South Wales, 58; produce, 65; the Auditor-General on the pastoral returns, 66; most pastoral land rented from Government, 67; freeholders and leaseholders, 69; progress of cultivation, 70; the crops and average in 1871, 70;

PAS

maize, 71; wheat, 72; hints respecting, 99; back runs and how to use them, 99; of Victoria, 146; of South Australia, 216; of Queensland, 264; of Western Australia, 305; of Tasmania, 332; of New Zealand, 389
 Pastoral leases in South Australia, 231; varieties of tenure, 231; stations in Queensland, 264; in Western Australia, 305; in New Zealand, 389
 Paterson inlet, 351
 Patrick's head, 316
 Patterson, cape, 109, 110
 Peak downs, 241
 Pearl fishery in Western Australia, 296
 Pedder lake, 315
 Peel river, discovery of the, 3; inlet, 299
 Pegasus bay, 351
 Pembroke county, 316
 Penola town, 200
 Penshurst farming township, 113
 Pensioner settlements, 352
 Peron, his narrative, 313
 Peron, his opinion of Australian wool, 59; died of a broken heart, 59
 Perpendicular, point, 13
 Perry town, 243
 Perth, capital town, 299, 317
 Perth, town of, 15
 Phillip, Capt., nominated as the governor, 6
 Phillip county, 14; island, 110, 351, Port, at first called King bay, discovered, 101; visited by Flinders, 101; settled, 101; becomes Victoria, 106; association, 126; elects Earl Grey as member, 127; demand for more freedom, 127
 Phonolite, 25
 Picton, capital town of, 15, 353
 Pillar cape, 315; of Tasman's peninsula, 316
 Pioneer river, 241
 Pittwater bay, 316
 Playfair volcanic cone, 240
 Pleistocene, the, 23, 361

PUR

Plenty, bay of, 351; mountains, 108
 Pliocene, old, is auriferous, 122; newer, 122
 Plumbago, 168
 Poison plant, 305; in Queensland, 265
 Polwarth county, 111
 Polynesian labour not imported, 50
 Polynesians of Queensland, 257
 Pontville of Bagdad, 317
 Pool, Captain, his explorations, 235
 Population of N. S. Wales, 48; of Victoria, 131; of South Australia, 208; of Queensland, 256; of Western Australia, 303; of Tasmania, 327; of New Zealand, 376; of the Fiji Islands, 423
 Porondom mountain, 109
 Porphyry, 25
 Portland bay, discovery of, 101, 110; port of, 111; population, 118; cape, 316
 Port Phillip bay discovered, 4
 Post-office, 86
 Post-offices, in Victoria, 178; rates, 178; in South Australia, 223
 Potatoes, 73; farina mills for, 157
 Poverty bay, 351
 Prahran, a suburb of Melbourne, 111
 Precious stones, 169, 279
 Presbyterian church. See Religion
 Preservation inlet, 351
 Press, influence of the, 141; newspapers, 141, 142
 Press, no liberty of the, 46
 Prices, New South Wales, 94; in Victoria, 187; in New Zealand, 412
 Primary rocks, 205; of Tasmania, 321; of New Zealand, 359
 Prince Regent river, 298
 Princess Charlotte bay, 242
 Princhester town, 243
 Prisoners, their first employment, 8
 Products, range of, 68
 Promise, plains of, 241
 Prosser river, 315; bay, 316
 Protestants. See Religion
 Pumice fragments, 24; in Queensland, 261
 Purrumbeet lake, 110

PYA

Pyalong, farming township, 113
Pyrenees mountains, 108

QUADRUPEDS, 28, 319; two only in New Zealand, 364
Quartz, barren and fertile, 163
Queenbeyan, town of, 15
Queenscliff, 111
Queensland, discovery of, 3, 5; colony of, 10; establishment of, 11; climate of, 113; discovery and history, 235; the colony proclaimed, 239; geography and climate, 239; area of, 239; mountains, 240; rivers, 241; very few lakes, 242; bays, capes, and islands, 242; towns, 243; climate, 244; geology, 246; the country once 2,000 feet higher, 253; barrier reef of coral, 253; metals, 253; fossils, 253; government, 254; separated from New South Wales, 255; first parliament, 255; population, 256; native police, 257; Chinese, 257; Polynesians, 257; populations of the towns, 258; census of age and sex, 259; education and religion, 262; pastoral, 264; how to get a run, 267; and its rental, 286; agriculture, 268; mining, 276; precious stones, 279, 280; trade, 281; banks, post, telegraph, and railways, 283; manufactures, 283; land laws and immigration, 283; homestead areas, 285; pastoral regulations, 287; mining and mineral leases, 287; auriferous lands, 287; number of immigrants, 287; assisted and free passages, 288; wages, 289; hints to emigrants, 289

RAFFLES BAY, 199
Raglan, diggings township, 112
Railways, 86; a help to the farmer, 69; in Victoria, 179; fares, 179; in South Australia, 223; of New Zealand, 398; essential, 414

ROB

Rainfall in New South Wales, 17; in Victoria, 114; in South Australia, 201; in Queensland, 246; in Western Australia, 300; in Tasmania, 318; in New Zealand, 356; in the Fiji Islands, 422
Ram's head, height of, 12
Rangitoto river, 350
Raoul, cape, 316
Rapid bay, 198, 199
Ravenswood town, 243
Razorback mountain, 197
Rebellion, the Irish, of 1804, 7
Recherche bay, 316
Redruth town, 200
Reef leases, 170
Reeve lake, 110
Reinga cape, 351
Religion, in New South Wales, 55 in Victoria, 142-146; in South Australia, 200; in Queensland, 263; in Western Australia, 304; in Tasmania, 329; in New Zealand, 383
Remarkable mountain, 197
Remutaka mountains, 349
Rent paid in tithes, 172
Reptiles, 36, 368, 420
Revenue, of New South Wales, 47; of Victoria, 129; of South Australia, 207; of Queensland, 256; of Western Australia, 303; of Tasmania, 327; of New Zealand, 375; of Fiji, 424
Rewa river, 418
Richmond, river, 13; town of, 15, 317; down, 241
Ridley's reaping machine, 213
Ringarooma bay, 315
Ripon county, 111
Riverina, claims separation, 11; country, 14
Rivers of New South Wales, 12; of Victoria, 109; of South Australia, 198; of Queensland, 241; of Western Australia, 298; of Tasmania, 315; of New Zealand, 350
Rivoli bay, 199
Roads, history of, in Victoria, 179
Robbins isle, 316
Rochester farming township, 113

ROC

Rockhampton, town of, 243
 Rockingham bay, 242, 243
 Rocks not good for farmers, 120
 Rocky point, 316
 Rodney county, 111
 Roebuck bay, 298, 299
 Roeburn town, 299
 Roe's explorations, 296
 Rokewood, farming station, 113
 Roman Catholics. See *Religion*
 Roma town, 243
 Roots, little growth in, 155
 Roper river, 198
 Rororarika town or Russell, 352
 Rosedale, mining township, 112
 Rose hill, location of, 6
 Ross town, 317
 Rotomahana, hot water basin, 350
 Rotorua lake, 350
 Rottenest island, 299
 Rotumah island, 424
 Rua Hine mountains, 349
 Ruapelm volcanic peak, 349
 Rubicon river, 315
 Runaway cape, 351
 Rushforth, diggings township, 112
 Russell county, 199, 316; mountains, 298; police district, 316

ST. CLAIR lake, 315
 St. George, cape, 13; town, 243
 St. Helena island, 243
 St. Helen's point, 316
 St. Kilda, a suburb of Melbourne, 111
 St. Lawrence town, 243
 St. Paul's Dome mountain, 315
 St. Vincent county, 14; gulf, 198; of Adelaide, 199
 Sale, mining township, 112
 Salisbury town, 200
 Saltaria town, 200
 Saltbush fattening, 148
 Salt water, 109
 Sandford, farming township, 113
 Sandgate town, 243
 Sandhurst of Bendigo, diggings township, 112; population of, 113
 Sandridge, a suburb of Melbourne, 111; port of, 111

SIL

Sandstone formation, 121; the Sydney, 21
 Sandwich, cape, 242
 Sandy cape, 242
 Sandy or Frazer's island, 243
 Saunders, cape, 351
 Savings banks, 178, &c.
 Savu-Savu, 419
 Saxby river, 241
 Saxon sheep in Australia, 64
 Scab in sheep, 65
 Scarsdale, diggings township, 112
 Schanck cape, 110; crater of, 198; mount, 206
 Schouten isle, 316
 Sealers' cove, 110
 Seals and seal skins, 365, 398
 Sebastopol, diggings township, 112
 Secondary formations, 22, 119; in Queensland, 248; sandstone and limestone, 322; of New Zealand, 360
 Selby, police district, 316
 Selwyn mountain, 108; river, 350
 Severn river, 315
 Seymour, farming township, 113; town, 317
 Shadwell mountain, 109
 Shark's bay, 299
 Sheep, breed of, 60; statistics of, 60; five guineas a head for sheep, 61; rash sheep speculations, 61; sheep sold at 18d. a head, 61; Saxon sheep, 64; land let as pastoral, 64; statistics of sheep, 148; diseases of, 64, 149; runs and their size, 149
 Shelbourne bay, 242
 Shells, 369, 420; land, 369
 Shipping returns, 170
 Shoalhaven bay, 13; river, 13; town of, 15
 Shoalwater bay, 242
 Shortland town, 352
 Sierra mountains, 109
 Silk, 75; prospects of, 75; in South Australia, 216
 Silurian rocks, 22; the base of Victoria, 117; thickness of, 117, 204; rocks meridional, 118; lower Silurian the auriferous one, 118;

SIL

upper Silurian has little gold, 119
 Silver mine, 167, 220, 395
 Simpson, Mr., appointed arbitrator, at Melbourne, 105
 Singleton, town of, 15
 Skiddaw, mount, 349
 Skipton, farming township, 113
 Smeaton mountain, 109; farming township, 113
 Smoky cape, 18
 Smythesdale, diggings township, 112
 Smyth mountain, 108
 Snake Banks town, 317
 Schnapper point, 111
 Snares, the, 352
 Snowy river, 109
 Social condition in New South Wales, 50
 Sofala, mines of, 15
 Soils, variety of, 68, 139
 Somerset town, 243; county, 316
 Sorell lake, 315; port, 315; police district, 316; town, 317
 Sorghum, 75, 278
 South Australian Company, 195; the colony settled, 196
 South Australia, discovery, 193; history, 195; Colonisation Association, 195; failure of the Association, 196; becomes a Crown colony, 196; its prosperity, 196; geography and climate, 196; area and boundaries, 197; mountains, 197; rivers, lakes, and bays, 198; islands, divisions, and towns, 199; climate, 200; rain, 201; hailstorms, 202; barometrical action, 202; water in the centre of Australia, 203; hot winds, 203; waterspouts, 203; geology of, 204; metalliferous wealth of, 206; gold, 206; no coals, 207; government, 207; Legislative Council and House of Assembly, 207; revenue and expenditure, 207, 208; debt and economy, 208; population, 208; diseases, 209; kind treatment of the aborigines, 209; education and religion, 210; places of worship and Sundayschools, 211,

STO

212; agriculture, 212; wheat, 213; Ridley's reaping machine, 213; hay, 215; orchards and grapes, 215; wine, 215; olive, flax, and silk, 216; pastoral lands, 217; increase of exports, 218; mining, 219; trade and manufactures, 221; railways, post-office, telegraphs, and banks, 223, 224; tariff, 224; duties, 224; sugar lands, 226; land to be lent on credit, 227; farms and sugar or cotton land, 227; pastoral land, 227; other leases, 228; copper leases, 228; occupation licenses and gold mining, 228; land laws and immigration, 229
 South cape, 316, 351; island, 349; has no volcanic hills, 350; lakes at, 350; called Tavai Poenam-moo, the Greenstone isle, 352
 Southland, province of, 352
 Southport town, 200; bay, 316
 Southwest cape, 316
 Spencer's gulf, 199
 Spencer mount, 349
 Spring hill, 108; river, 315; bay, 316; of Prossers, town of, 317
 Springsure town, 248
 Squatters *versus* farmers, 63, 150
 Squatting. See *Pastoral*
 Staaten river, 241
 Stamp duties, 48, 402
 Stanley barrier range, 197; county, 199; town, 317
 Stanthorpe town, 243
 Stawell of Pleasant creek, diggings township, 112
 Steamers, river, 179
 Steiglitz, diggings township, 112
 Stephens, port, 13
 Stewart island, or Southern island, or New Leinster, 349, 352
 Stirling, Capt., his discovery, 226, 295
 Stirling mountains, 298
 Stock, history and statistics of, 60; annual assessment of, 63; the farmer *versus* the squatter, 63; breeding, 158; in South Australia, 218; in Queensland, 266;

STO

cattle runs, 266 ; in Tasmania, 333 ; wool, 333
 Stokes, Capt., his discoveries, 225
 Stony rises, 124
 Storm bay, 316
 Stradbroke island, 243
 Strangways's Springs, town of, 200
 Strathalbyn town, 200
 Streaky bay, 198 ; town of, 200
 Stroud, town of, 15
 Strzelecki, Count, his discoveries, 5 ; mountains, 108 ; creek, 198
 Stuart, Mr. John McDouall, endeavours to cross the continent, 195 ; his sufferings, 195 ; his discoveries, 225, 226
 Stuart's centre, 198
 Sturgeon mountains, 109
 Sturt, Capt., his discoveries, 4 ; in the desert, 194 ; on the Murray, 194
 Sturt river, 198
 Sugar and coffee leases in Queensland, 285
 Sugar-growing, 74 ; advantages, 98 ; in Queensland, 272
 Sugar in Western Australia, 305 ; white sugar growers, 275 ; in the Fiji Islands, 423
 Sugar-loaf point, 13
 Sullivan's cove of the Derwent, 317
 Sunday schools. See *Religion and Education*
 Sunday strait, 298, 299
 Sun-stroke, fatal, 16
 Surat town, 243
 Surprise mountain, 240
 Suva, 424
 Swan Hill, mining township, 112
 Swanport, 316
 Swan river, 295, 298 ; island, 316
 Swansea of Swanport, town of, 317
 Sweer island, 242
 Sydney founded, 6 ; its former name, 6 ; city of, 14 ; mean heat of, 19 : the University established, 55 ; free libraries and the Sydney Museum established, 55

TABLE CAPE, 316
 Table peak, 316

TAU

Tachera county, 111
 Taieri river, 350
 Take-all, 72
 Talbot county, 111
 Tamar river, 315
 Tambo county, 111
 Tamboritha mountain, 108
 Tambo town, 243
 Tamworth, town of, 15
 Tangil county, 111
 Tanks, the former name of Sydney, 6
 Tanunda town, 200
 Taranaki province, 352
 Tararua mountains, 349
 Tarcutta river, 13
 Tariff of New South Wales, 84 ; Victoria, 176 ; South Australia, 224 ; of Queensland, 282 ; of Western Australia, 308 ; Tasmania, 337 ; New Zealand, 400
 Tarnagulla, diggings township, 112
 Tar-oil, 27
 Taroom town, 243
 Tarradale, diggings township, 112
 Tarrengower mountain, 108
 Tarwin river, 109
 Tasman, his discoveries, 225, 294, 312, 343, 416
 Tasmania, discovery and history of, 312 ; geography and climate, 314 ; mountains, rivers, lakes, and bays, 315 ; capes, islands, and divisions, 316 ; towns and climate, 317 ; natural history and botany, 319 ; geology, 321 ; rocks, 321 ; government and population of, 326, 327 ; aborigines of, 328 ; education and religion of, 329 ; pastoral and mining, 332, 333 ; trade and manufactures, 335 ; tonnage, imports, and exports, 335 ; whaling and banks there, 336, 337 ; railways, tariff, and duties, 337 ; land laws and immigration, 338 ; wages, 339 ; hints to emigrants, 339
 Tasmanite, of Tasmania, 324
 Tasman's peninsula, south-eastern, 316
 Tatiara, district, 199
 Taupo lake, 350 ; a former volcano, 363

TAU

Tauranga harbour, 351
 Taviuni island, 418
 Taxation. See *Government*
 Teacher, the first, and grant in aid, 51, 52; technical education, 141; technological museums, 141
 Telegraph, 86
 Telegraphs in Victoria, 179; rates, 179; in South Australia, 224
 Temperature of Melbourne, 114
 Temple bay, 242
 Tenterfield, town of, 15
 Terang lake, 110; farming township, 113
 Teresa river, 241
 Terrible peak, 197
 Tertiary beds, 28, 121; in Queensland, 261; varieties of, 252; of Tasmania, 324; deposits, 22, 361; of New Zealand, 360
 Thakambau, King of Fiji, 416, 417, 418
 Thames diggings, 352
 Thames river, 350; Frith of, 351
 Thierry, Baron de, in New Zealand, 344
 Thompson river, 109, 241
 Three Kings, island of the, 352
 Thumbs, the, mountain, 315
 Thylacoles carnifex, or butcher pouched lion, 28, 125
 Tiberias, lake, 315
 Tides in various places in South Australia, 243
 Tiger, bones of the, 125; wolf, 319
 Timber, trees, 184; wood splitters, 184
 Timboon lake, 110
 Tin, 22, 168; very rich, 79; leases, 169; mining, 278; mines in Tasmania, 385; N. Zealand, 395
 Tithes paid for rent, 172
 Tobacco, 72, 73, 423
 Tonga islands, 417
 Tongans, 423
 Tongariro volcanic peak, 349
 Toowoomba town, 243
 Torlesse mountain, 349
 Torquay town, 317
 Torrens, lake, visited, 194; country about, 195, 198; mountain, 197;

VAL

the Adelaide river, 198; tertiary rocks, 205; town, 200
 Torres straits, 285, 242; Captain Pool murdered there, 235
 Tower hill, 109; crater, 124
 Towns of New South Wales, 14; of Victoria, 111; of South Australia, 199; of Queensland, 243; of Western Australia, 299; of Tasmania, 317; of New Zealand, 352; distances of towns, 353
 Townsville, 243
 Trachyte, 25
 Trade:—Trade in New South Wales, 82; trade per head, 82; trade with other states, 82; imports per head, 84; trade in Victoria, 170; in South Australia, 221; in Queensland, 281; in Western Australia, 307; in Tasmania, 335; in New Zealand, 396
 Trafalgar mountains, 298
 Transportation ceases in Tasmania, 314
 Travertine beds in Tasmania, 324
 Trees, 41, 320, 372
 Trial bay, 13
 Trias at the Clarence, 22
 Tribulation, cape, 242
 Trinity bay, 242
 Tufa beds of New Zealand, 362
 Tumat mountain, 12; river, 13; town of, 15
 Tunbridge town, 317
 Turon, mines of, 15
 Twofold bay, 13
 Tyers lake, 110
 Tyndall mount, 349
 Tyrrell lake, 110

UMBRELLA MOUNTAINS, 350
 Underwood, port, 351
 University of Victoria, 140
 Unley town, 200
 Upstart bay, 242; cape, 242
 Useful mountain, height of, 108

VALENTINE MOUNTAIN, 315
 Vancouver, Captain, his discoveries, 295

VAN

Van Diemen's gulf, 198, 199; cape, 199
 Van Diemen's Land. See *Tasmania*
 Vanua Levu island, 418
 Victor harbour, 199
 Victor harbour, town of, 200
 Victoria, 5; establishment of, 11; discovery and history, 101; Cook's discovery, 101; Western port discovered, 101; Port Phillip discovered; French claim of discovery, 101; Major Mitchell's discoveries, 102; the land named Australia Felix, 102; Gipps Land, 102; history of Victoria, 103; the first settlement, 103; Captain Collins to be Lieutenant-Governor, 103; who with his party removes to Van Diemen's Land, 103; Port Phillip becomes Victoria, 106; gold discovered in, 106; the gold fever, 106; order restored, 106; demand for social and political progress, 107; satisfactory state of the colony, 107; becomes first in the Australias, 107; geography and climate, 107; area of, 108; mountains, 108; rivers and lakes, 109; bays, capes, islands and divisions, 110; electoral provinces and districts of, 111; shires and road districts of, 111; towns, 111; climate of, 113; population, 113; hot winds of, 114; geology of, 116; rainfall, 115; earthquakes and meteors, 116; scenery of, 117; rocks useful, 117; great denudation produces fertility and exposes metals, 117; the base is Silurian, 117; the Victorian constitution, 128; electors, 129; working classes truly conservative, 129; revenue, 129; expenditure, 129; loans, 130; public debt for public works, 130; municipal system, 130; shires and road districts, 131; population, 131; the colony becoming more healthy, 132; malformations, 133; diseases, 133; Victorian aborigines, 135; Christian missions, 135; education and religion, 135; university,

VOL

140; public museum, 140; state libraries, 141; moral progress of the colony, 145; crime, 146; no poor law, 146; pastoral statistics, 146; squatters and squatting, 146; land and stock, 147; implements, 147; first flock of sheep, 147; the first overlander, 148; Acclimatisation Society, 148; salt-bush-fattening, 148; statistics of stock, 148; diseases of sheep, 149; wool and tallow rates, 149; runs, 149; pastoral districts in Victoria, 149; purchased land, 149; labour on stations, 150; agriculture, 150; population, 153; geology and farming, 154; rust in wheat, 155; statistics of crops, 155; mining, 159; history of the gold discovery, 160; nuggets, 164; other mines, 168; mining laws, 169; trade and manufactures, 170; shipping, 170; banks, 171, 177; imports and exports, 173-175; tariff, 175; protective law, 176; excise duty, 177; mortgages and savings banks, 178; building societies and post-offices, 178; manufactures, 181; land laws and immigration, 181, 185; prices, 182-185, 188; wages, 186; Victorian farming, 189; town civilisation, 191; Mr. Trollope on, 192
 Victoria, district of Western Australia, 298
 Victoria lake, 5, 13, 110, 198; once a bay, 205; mountains, 109, 298, 315; river, now the Barcoo, 198, 237, 298; valley, town of, 317
 Victoria, Port Essington, settlement of a military station at, 227
 Villiers county, 111
 Vinegar hill, colonial engagement of, 7
 Vines and wine. See *Wine*
 Viti Levu island, 418
 Volcanic ashes, 25, 124; cones and craters, 109; rocks, but no active crater, 122; products of the, 123; extinct, 123; height of cones, 123;

VOL

in South Australia, 206; craters, 206; the Devil's punchbowl, 206; the Devil's inkstand, 206; in Queensland, 249; rocks and volcanic hills, 301, 302; peaks in the north island of New Zealand, 349; conglomerate of New Zealand, 361; characteristics of, 362, 363; desert, 363; active craters, 362
Volcanic formations, 418
Voma peak, 418

WAGES in New South Wales 92; in Victoria, 187; in New Zealand, 411
Wagga-Wagga, town of, 15
Waikari lake, 350
Waikato river, 350
Waimate town, 352
Waipa river, 350
Wairarapa lake, 350; river, 350
Wairau river, 350
Waitemata bay, 351
Waitaki river, 350
Waitemata town, 352
Wakatipu, lake, 350
Wakefield river, 198; port, 200; mountains, 349
Wales, Prince of, island, 242
Walhalla, diggings township, 112
Wallan-Wallan, farming township, 112
Wallaroo town, 200
Walsh river, 241
Wanaka lake, 350
Wanganui river, 350
Wangaratta, mining township, 112
Wangaroa harbour, 351
Wannon river, 109
Warrego district, 240; river, 242; north district, 14
Warrenheip, near Ballarat, farming township, 113; mountain, 108, 109
Warrnambool, port of, 111; population of, 113
Warwick town, 243
Waterloo mountains, 298; point, 316
Water reservoirs, 159
Wednesday island, 242

WHE

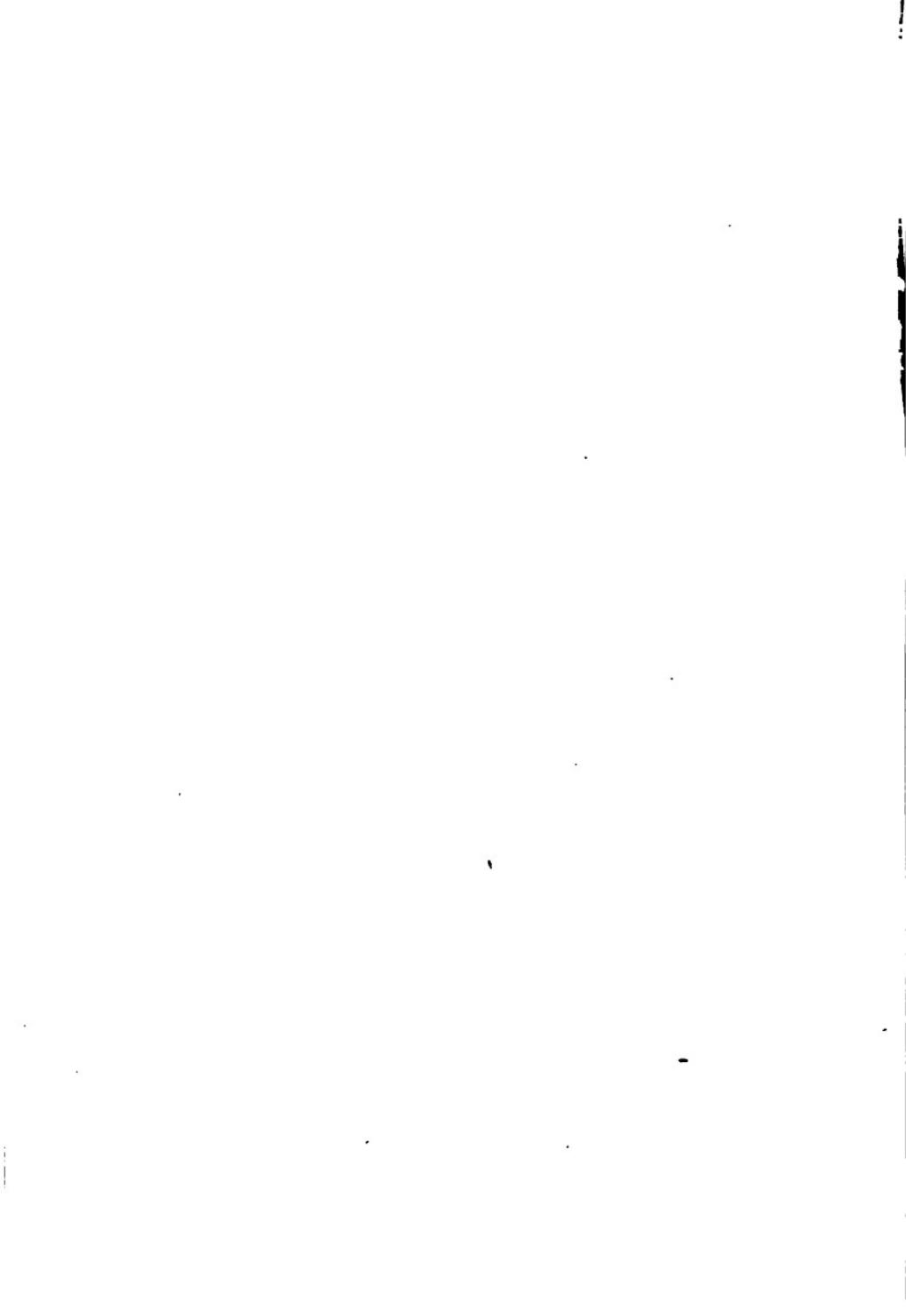
Weeah county, 111
Weimby, town of, 15
Weir river, 242
Wellesley island, 199, 242
Wellington county, 14, 316; district, W. of Macquarie, 14; town of, 15, 200; mountain, 108, 315; lake, 110; province, 352
Welshpool, mining township, 112
Wendouree lake, 110
Wentworth, Mr., his work, 67
Wentworth, town of, 15
Werribee river, 109
Wesleyan Missionaries at Tonga island, 417. See *Religion*
Westbury town, 317
Western Australia, discovery and history of, 294; history, 296; geography and climate, 297; area of the colony, 297; mountains and rivers, 298; lakes, bays, capes, islands, towns, and climate, 299; rain, 300; heat of interior, 300; geology, 300; primary rocks, 301; granite intrusive, 301; secondary formation, 301; volcanic rocks and basaltic columns, 301; government, 302; revenue and expenses, 303; population, 303; education and religion, 304; agriculture, 304; pastoral, 305; mining, 306; not auriferous, 306; trade and manufactures, 307; telegraph, 308; the tariff, 308; land laws and immigration, 308; hints to emigrants, 310
Western downs, 241
Western interior, extent of, 11; boundaries of, 11; extent and area of, 11; of Queensland, 240
Western pastoral district, 199
Western plains, discovery of the, 3
Western port, discovery of, 101, 103, 110
Westland county, 352
Westmoreland county, 14, 316
West point, 316
Weymouth bay, 242
Whale head, 316
Wheat fields, 11; a good crop, 72
diseases of wheat, 72, 158

WIA

- Wheeler mountain, 240
 White island, 352
 Whit-sunday island, 243
 Wianamatta carboniferous beds, 26
 Wickham, point, 242
 Wickliffe, farming township, 113
 Wide bay district, 240, 242
 Wilkes, Commodore, his discovery, 416
 William, mount, 109; port, 351
 Williamstown, port of, 111; population of, 113
 Willunga town, 200
 Wilson's promontory, 108, 110
 Wimmera river, discovered, 102, 109; district of, 110; available for feeding sheep, 121
 Winchelsea, farming township, 112
 Winds, those usual, 20, 114; bursters, 20; in Queensland, 245; of Tasmania, 317, 318
 Wind, the hot, 16; in Victoria, 114
 Windsor, town of, 15
 Windward Islands, 423
 Wine, 74; beer *versus* wine, 74; in Victoria, 157; in South Australia, 215; in Western Australia, 305
 Wingen mount, a volcano, 25
 Wollomai cape, 110
 Wollondilly, the, 15
 Wollongong, 12; harbour, 13; town of, 15
 Wonnangatta county, 111

ZER

- Wood in Western Australia, 303
 Woodend, farming township, 112
 Woodside town, 200
 Wood's point, diggings township, 112
 Wool, of New South Wales, 58; of Victoria, 149; of South Australia, 218; in the tropics, 265; of Queensland, 266; of Western Australia, 306; of Tasmania, 333; of New Zealand, 392
 Wyatt town, 243
 Wyld's craig, 315
 Wynyard town, 317
- YACKANDANDAH**, mining town-
ship, 112
 Yambuck, farming township, 113
 Yam creek, town of, 200
 Yandoit, farming township, 113
 Yankalilla river, 198
 Yankalilla town, 200
 Yan-Yean, farming township, 112
 Yarra-Yarra of Melbourne, 109
 Yass, 14; town of, 15
 Yass river, 13
 Yea, farming township, 113
 York, cape, 242; town, 299
 York, height of, 12
 Yorke peninsula, 198
 Young, town of, 15
- ZERO** mountain, 109



INDEX TO ADVERTISERS' ANNOUNCEMENTS

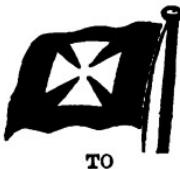
BANKS—	PAGE	BOOTMAKERS—	PAGE
Bank of New Zealand	12	Simmitt & Co.	33
Colonial Bank of New Zealand	14	Davenport, J. T.	36
Commercial Banking Company of Sydney	11	CHLORODYNE MANUFACTURER—	
National Bank of New Zealand	13	See first page in Book	
National Bank of Scotland	14	COLONIAL HANDBOOKS—	
Union Bank of Australia	10	See last page in Book	
BIBLE SOCIETY—		CORN FLOUR—	
British and Foreign	24	Brown & Polson	
BOOKS, PUBLICATIONS, &c. ON THE COLONIES—		DEPARTMENTS—	
Australian Dictionary of Dates and Men of the Time	38	(S. W. Silver & Co.'s)	
Australian Grazier's Guide Cape and Natal: Photographic Views of Climate and Health in South Africa	38	GLASS, CHANDELIERs, &c.	
Colonies and India, The (a Weekly Newspaper)	38	Osler, F. & C.	
Imperial Federation	30	GUNS, RIFLES, REVOLVERS, &c.—	
Key to Fortune in New Lands	38	Colt's Fire Arms Co.	
Maps: Colonial	32	S. W. Silver & Co.	
POCKET-BOOK SERIES—		HARNESS COMPOSITION, &c.—	
South Africa	38	Harris, S. & H.	
West Indies	38	HOUSEHOLD SPECIALITIES—	
Pocket Doctor	30	Goodall, Backhouse, & Co.	
Queensland, Resources of	38	INDIA RUBBER, &c., MANUFACTURERS—	
South Africa Handbook	34	India Rubber, Gutta Percha, and Telegraph Works Co.	
Transvaal Handbook	38	INK MANUFACTURER—	
Transvaal, On Trek in the	38	Stephens, H. C.	
Ups and Downs	22		

INDEX TO ADVERTISERS' ANNOUNCEMENTS.

	PAGE		PAGE
INSURANCE COMPANIES—		SHIP-BROKERS, &c.	
London & Lancashire . . .	16	Clark & Co., C. . . .	9
Norwich Union . . .	17	Flint, J. H. . . .	4
MAPS, COLONIAL . . .	32	Green & Co., F. . . .	3
PHOSPHODYNE MANUFACTURER—		Galbraith, Pembroke, & Co. . . .	8
Lalor, Dr. R. D. . . .	31	Houlder Brothers & Co. . . .	1
PICKLE AND SAUCE MANUFACTURERS—		New Zealand Shipping Co. . . .	6
Goodall, Backhouse, & Co. .	35	Orient Line	2
Whybrow, G. . . .	29	Shaw, Savill, & Co. . . .	5
SADDLERY AND HARNESS MANUFACTURERS—		Shipwrecked Mariners' Soc. . . .	7
Blackwell, S. . . .	27	Taylor, Bethell, & Roberts	8
Milroy & Sons	27		
SEED MERCHANTS—		STATIONERS, WHOLESALE AND SHIPPING—	
Gibbs & Co., Thos. . . .	21	Bean, Webley, & Co. . . .	23
Hurst & Son	19		
Sutton & Sons	18	TELEGRAPH CABLE, &c., MANUFACTURERS—	
		India Rubber, Gutta Percha, and Telegraph Works Co. . . .	15
		VINEGAR MAKERS—	
		Pott, A. W. R. & N. . . .	29
		WATCH AND CLOCK MAKERS—	
		Frodsham & Co. . . .	33

HOULDER BROTHERS & CO.'S

LINE OF



CLIPPER PACKETS

TO

AUSTRALIA, NEW ZEALAND, SOUTH AFRICA, &c.

Vessels of the highest class specially selected for the service are despatched at regular intervals to

**MELBOURNE, SYDNEY, ADELAIDE and BRISBANE,
CAPE TOWN, ALGOA BAY, EAST LONDON and
PORT NATAL.**

FARES.

First Class, from 40 guineas each ; Second and Third Class, from 18 to 22 guineas.

Passengers are also forwarded at Through Rates to the various Ports of Queensland and New Zealand.

CASH ORDERS ISSUED ON THE COLONY FREE OF CHARGE.

Goods and Passengers' Baggage Shipped and Insured on the most Moderate Terms.

For further particulars apply to

HOULDER BROTHERS & CO.

146 LEADENHALL STREET, LONDON, E.C.

AND 4 ORIEL CHAMBERS, WATER STREET, LIVERPOOL.

ORIENT LINE OF STEAMSHIPS TO AUSTRALIA.

DIRECT SERVICE

BETWEEN

LONDON & AUSTRALIA IN FORTY DAYS.

One of the following magnificent full powered steamships belonging to the Orient Steam Navigation Company, Limited, and the Pacific Steam Navigation Company, is despatched every fortnight for Adelaide (Semaphore), Melbourne, and Sydney, taking passengers for all ports in Australia, Tasmania, and New Zealand:—

STEAMSHIPS	TONS	NOM. H.P.	CAPTAINS
Aconagua	4106	600	G. N. CONLAN.
Chimboraso	3847	550	C. E. LE P. TRENCH.
Cotopaxi	4028	600	R. STUDDERT.
Cusco	3849	550	J. MURDOCK.
Garonne	3876	550	O. HILLKIRK.
John Elder	4152	550	A. J. COOPER.
Liguria	4666	750	C. E. DARLEY.
Lusitania	3825	550	C. A. F. POWELL.
Orient	5386	1000	W. F. HEWISON.
Peteai	4219	600	A. GORDON.
Sorata	4014	600	O. FOWLER.

These steamers have been specially fitted for carrying all classes of passengers through the Tropics on long voyages, and the passages hitherto made are the fastest on record.

FARES.

First Class, 50 guineas and upwards; Second Class, 35 guineas and upwards; Third Class, closed cabins, with two berths, 20 guineas each; Third Class, closed cabins, with four berths, 18 guineas each; Steerage, open berths, for Men only, 14 guineas each.

For plans and full particulars, apply to the Managers of the Line:—

**F. GREEN & CO., & ANDERSON ANDERSON & CO.
FENCHURCH AVENUE, LONDON, E.C.**

COLONIAL AGENTS:—

JOSEPH STILLING & CO., Adelaide.
BRIGHT BROS. & CO., Melbourne.
GILCHRIST, WATT, & CO., Sydney.

REGULAR LINES OF STEAM & SAILING SHIPS
FOR
AUSTRALIA AND INDIA.

COMPRISING AMONGST OTHERS THE FOLLOWING
HIGH-CLASSED VESSELS :—

<i>ARAUNAH.</i>	<i>GRASMERE.</i>	<i>RENOwN.</i>
<i>ALEXANDER DUTHIE.</i>	<i>HAWKESBURY.</i>	<i>SOUTH AUSTRALIAN.</i>
<i>BEREAN.</i>	<i>HIGHFLYER.</i>	<i>SOBRAON.</i>
<i>BAROSSA.</i>	<i>JOHN RENNIE.</i>	<i>ST. VINCENT.</i>
<i>CITY OF ADELAIDE.</i>	<i>LA HOGUE.</i>	<i>SUPERB.</i>
<i>COLLINGWOOD.</i>	<i>LANOMA.</i>	<i>SHANNON.</i>
<i>CORINTH.</i>	<i>MERMERUS.</i>	<i>THE LORD WARDEN.</i>
<i>CARLISLE CASTLE.</i>	<i>MELBOURNE.</i>	<i>VICEROY.</i>
<i>DECAPOLIS.</i>	<i>OUTALPA.</i>	<i>WESTBURY.</i>
<i>DUNBAR CASTLE.</i>	<i>PARRAMATTA.</i>	<i>WAGOOLA.</i>
<i>ETHEL.</i>	<i>RUNNYMEDE.</i>	<i>WINDWARD.</i>
<i>GATESIDE.</i>	<i>RODNEY.</i>	<i>WINDSOR CASTLE.</i>

The above-named and other Vessels leave London with Passengers and Cargo at regular dates for the following Places :—

<i>ADELAIDE.</i>	<i>GREYMOUTH.</i>	<i>NELSON.</i>
<i>AUCKLAND.</i>	<i>HOBART TOWN.</i>	<i>PERTH.</i>
<i>BOMBAY.</i>	<i>HOKITAKA.</i>	<i>PORT</i>
<i>BRISBANE.</i>	<i>LAUNCESTON.</i>	<i>CHALMERS.</i>
<i>BLUFF</i>	<i>LYTTELTON.</i>	<i>ROCKHAMPTON.</i>
<i>HARBOUR.</i>	<i>MADRAS.</i>	<i>SYDNEY.</i>
<i>CALCUTTA.</i>	<i>MARYBOROUGH.</i>	<i>TARANAKI.</i>
<i>COLOMBO.</i>	<i>MELBOURNE.</i>	<i>TIMARU.</i>
<i>COOKTOWN.</i>	<i>NAPIER.</i>	<i>WELLINGTON.</i>

For further particulars, and concerning Rates of Freight, Passage Money, Insurance on Cargo, or on the Personal Effects of Passengers, apply to

F. GREEN & CO.

13 Fenchurch Avenue, LONDON, E.C.

COLONIAL LINE OF STEAM AND SAILING PACKETS



TO

AUSTRALIA AND NEW ZEALAND.

The Steam Ships of this Line are well known for their speed and freedom from accident.

The arrangements are of the most complete character, and combine every convenience for the health and comfort of passengers.

The Commanders have a high reputation as skilful and careful navigators, and for their kindness and attention to passengers.

The following are some of the magnificent Steamers which have been dispatched by this Line.

SS. AUSTRALIA	Captain W. CARGILL	2,737 tons.
SS. AFGHAN	J. ROWLEY	2,202 "
SS. CITY OF LONDON	R. MCNEIL	3,212 "
SS. HANKOW	W. SYMINGTON	3,594 "
SS. NEMESIS	R. G. STEUART	3,452 "
SS. ROTOMAHANA	T. UNDERWOOD	1,800 "
SS. ST. OSYTH	R. McNABB	3,541 "
SS. TE ANAU	T. CARRY	1,652 "
SS. WHAMPOA	W. J. HYNES	3,885 "
SS. ZEALANDIA	J. S. FERRIES	2,730 "

SAILING VESSELS MONTHLY.

FOR PARTICULARS APPLY TO

JOHN HENRY FLINT,
112 FENCHURCH STREET,
LONDON, E.C.

NEW ZEALAND—THE PASSENGER'S LINE.

SHAW, SAVILL, AND CO.

34 Leadenhall Street, London.

FIRST-CLASS CLIPPER PACKETS

Sailing regularly at short intervals for

AUCKLAND | HAWKE'S BAY | WELLINGTON | OTAGO
TARANAKI | CANTERBURY | NELSON | SOUTHLAND

This Line, which now embraces the old original one of Messrs. Willis and Co., was established in 1858 to meet the rapidly-increasing requirements of New Zealand by the organisation of a Service specially adapted for the safe and comfortable conveyance of PASSENGERS and FAMILIES. Upwards of 1,400 First-class Ships have already been despatched by it, conveying upwards of 150,000 passengers.

The Packets forming the 'PASSENGER'S LINE' are All First-class Ships, constructed on some of the finest models of combined speed and strength, and commanded by experienced Officers familiar with the voyage.

In the arrangement of Cabins and Berths, and in the general equipment of the Ships, all modern marine sanitary improvements, suggested by practical experience and the progress of science as conducive to the health, comfort, and safety of Passengers, continue to be adopted.

Nearly all the Special Settlement Parties have been conveyed by the Ships of this Line. Intending Passengers should communicate with the undersigned.

All particulars, together with full information on all questions relating to Ships, Rates of Passage, Freight and Insurance, Shipment of Luggage, Remittances, &c., may always be obtained by writing to SHAW, SAVILL, and CO.

SHAW, SAVILL, & CO.'S PASSENGER LINE OF PACKETS FROM LONDON TO NEW ZEALAND.

	TONS		TONS		TONS
ADAMANT	815	HALCIONE	843	MARGARET GALBRAITH	841
ANAZI	468	HELEN DENNY	728	MAY QUEEN	730
BEDFORDTON	941	HERMIONE	1120	MEROPE	1054
CHILE	768	HUDSON	794	PLEIADES	997
CRUSADER	1058	HIMALAYA	1008	PLIONE	1092
ELIZABETH GRAHAM	598	HYDASPE	2093	ST. LEONARD'S	1054
EUTERPE	1197	LADY JOCELYN	2138	SOUKAR	1304
FAMENOTH	983	LANGSTONE	746	TREVELYAN	1042
FORFARSHIRE	1238	LOCHNAGAR	464	WAVE QUEEN	853
FLENLORA	764	LUTTERWORTH	841	ZEALANDIA	1116

THE
NEW ZEALAND SHIPPING CO.,
LIMITED,

Despatch at regular and stated intervals for

**AUCKLAND, CANTERBURY, OTAGO,
AND WELLINGTON,**

One of the Company's high-classed Iron Ships, specially built and fitted for
the trade, and commanded by men of great experience.

RANGITIKI	1,188	Tons Register.	WAIROA	1,015	Tons Register.
WAIMATE	1,124	" "	WAIAKATO	1,021	" "
WAITANGI	1,128	" "	RAKAIA	1,022	" "
OPAWA	1,075	" "	PIAKO	1,075	" "
MATAURA	853	" "	OTAKI	1,016	" "
HURUNUI	1,013	" "	ORARI	1,011	" "
WAIPA	1,017	" "	WANGANUI	1,077	" "
WAITARA	833	" "	WAIMEA	848	" "

PAREHORA, 878 Tons Register.

These vessels are supplemented by other equally fine ships as occasion requires.

Average Passage 80 to 90 days.

For Passenger Rates and other particulars apply to

The Manager,

84 Bishopsgate Street,

London, E.C.

HEAD OFFICE, CHRISTCHURCH, CANTERBURY, NEW ZEALAND.

Shipwrecked Fishermen and Mariners' Royal Benevolent Society.

INCORPORATED BY ACT OF PARLIAMENT, AND SUPPORTED BY VOLUNTARY CONTRIBUTIONS.

Patron—HER MAJESTY THE QUEEN.

Vice-Patrons—H.R.H. THE PRINCE OF WALES, K.G.

H.R.H. THE PRINCESS OF WALES,

H.R.H. REAR ADMIRAL THE DUKE OF EDINBURGH, K.G.

President—HIS GRACE THE DUKE OF MARLBOROUGH, K.G.

This Society was instituted in 1839, for Relieving the Widows and Orphans of Fishermen, Mariners (whether of the Royal or Mercantile Navy), Coastguardmen, Pilots, and Boatmen; and for Boarding, Clothing, and Forwarding Home, Wrecked Seamen and other Poor Persons of all Nations cast destitute on the Coasts, and for assisting Fishermen and Boatmen to replace their Boats, or Clothes, when lost by Storm or Accident; also for giving Gold and Silver Medals, or other rewards, for Saving Life on the High Seas or Abroad. Last year **11,863** persons were relieved, including **2,635** Widows, who, in addition to what they were awarded at the time of their husbands' deaths, receive annual grants in many cases sufficient to pay the rents of their Cottages.

Since the formation of the Institution in 1839,

297,677 PERSONS HAVE BEEN RELIEVED.

FRANCIS MAUDE,

Captain R.N., Chairman of Committee.

W. R. BUCK, Secretary.

Office :—Hibernia Chambers, London Bridge, S.E.

Donations and Annual Subscriptions will be thankfully received in Stamps, Cheques, or Post Office Orders, by Messrs. Williams, Deacon, & Co., Birch Lane, City, Bankers to the Society; by all the London and Country Bankers; by the several Metropolitan Army and Navy Agents; by the Honorary Agents throughout the Kingdom; by the Travelling Secretaries; and by the Secretary at the Office of the Society, Hibernia Chambers, London Bridge, S.E.

The Society publishes a Quarterly Maritime Magazine, 'THE SHIPWRECKED MARINER,' price 6d. May be had of Geo. Morrish, Warwick Lane, Paternoster Row, or through any Bookseller.

AUSTRALIA.

'LONDON



LINE.'

**QUEENSLAND, MELBOURNE, SYDNEY,
AND ADELAIDE.**

The superb high-classed clipper Ships of the LONDON LINE Load in the EAST INDIA Docks, are noted for their great speed, regularity, and comfort, and are specially fitted for the AUSTRALIAN Passenger Service. Separate Cabins for Families.

FARES FROM THIRTEEN GUINEAS.

FREIGHT OR PASSAGE,

Apply to **TAYLOR, BETHELL, & ROBERTS,**
110 FENCHURCH STREET, LONDON, E.C.

P. HENDERSON & CO.'S LINE of PACKET SHIPS.

From CLYDE
to

OTAGO, NEW ZEALAND.

Landing Cargo at PORT CHALMERS, and taking Goods and Passengers at Through Rates to all other Ports in NEW ZEALAND.

	Tons Register		Tons Register
NAPIER	992	WILLIAM DAVIE	840
JESSIE READMAN	962	OTAGO	992
CANTERBURY	1,250	WILD DEER	1,016
AUCKLAND	1,250	DUNEDIN	1,260
WELLINGTON	1,250	INVERCARGILL	1,250
OAMARU	1,800	NELSON	1,250
MARLBOROUGH	1,150	TARANAKI	1,150
LYTTTELTON	1,110	WESTLAND	1,110
TIMARU	1,300		

The Ships of this Line are of the highest class and fitted with all modern improvement conducive to the comfort of Passengers. They are well known for their rapid Passages and delivery of Cargoes in good order.

For Particulars as to Passage Money, &c., apply to

P. HENDERSON & CO., 15 St. Vincent Place, Glasgow,
Or, to the Agents,
GALBRAITH, PEMBROKE, & CO., 8 Austin Friars, London.

AMERICAN OVERLAND ROUTE TO AUSTRALIA, NEW ZEALAND, CHINA, & JAPAN

BY
Cunard, Inman, White Star, Allan, American, Anchor, Guion, National, French, General
Transatlantic, and other Steamship Lines to

New York, Philadelphia, Boston, Quebec, Portland, or Baltimore,
And by the Union and Central and Pacific Railway to
SAN FRANCISCO,

There connecting with STEAMERS OF THE PACIFIC MAIL S.S. COMPANY, sailing for
YOKOHAMA AND HONGKONG,

And by Steamers of the same Company sailing every fourth Saturday to
AUCKLAND AND SYDNEY,
CALLING AT HONOLULU.

FIRST-CLASS FARES FROM LIVERPOOL TO

HONOLULU 28 days . £62 0 0	SYDNEY 43 days . £70 0 0	SHANGHAI 42 days . £98 0 0
AUCKLAND 40 , . 70 0 0	YOKOHAMA 40 , . 87 0 0	HONGKONG 42 , . 92 0 0

CHARLES CLARK & COMPANY,
Agents, Pacific Mail Steamship Company,
WINDSOR CHAMBERS, GREAT ST. HELENS, LONDON, E.C.



COLT'S NEW DOUBLE-ACTION

•450 Cal. Government ARMY REVOLVER, as supplied to H.M.'s
War Department.

COLT'S new breech-loading Army Revolver, as adopted by the United States
Government for their Cavalry, is made to take the Boxer Service Cartridge.
COLT'S double-action •380 cal. Revolvers for Travellers & House protection.
COLT'S 5-shot •380 and •410 cal. Pocket Pistol.
COLT'S Deringers, for the vest pocket.

ACCOUETREMENTS AND AMMUNITION.
PRICE LISTS FREE.

ADDRESS :—

COLT'S FIREARMS COMPANY, 14 PALL MALL, LONDON, S.W.

UNION BANK OF AUSTRALIA

LIMITED.

ESTABLISHED 1837.

Paid-up Capital	£1,500,000
Reserve Funds	816,500
Reserve Liability of Proprietors	3,000,000
Total Capital and Reserve Funds	£5,316,500

HEAD OFFICE—1 BANK BUILDINGS, LOTHBURY, LONDON.

COLONIAL BRANCHES.

VICTORIA.

MELBOURNE.
SANDHURST (BENDIGO).
ROCHESTER.
DAYLESFORD.
TARNAGULLA.
ALEXANDRA.
GEELONG.
BALLARAT.
MERTON.
SMYTHESDALE.
CLUNES.
STAWEll (PLEASANT CREEK).
MARYBOROUGH.
PORTLAND.

NEW SOUTH WALES.

SYDNEY.
DENILQUIN.
HAY.
WAGGA WAGGA.
NEWCASTLE.

QUEENSLAND.

BRISBANE.
ROCKHAMPTON.
TOOWOOMBA.

SOUTH AUSTRALIA.

ADELAIDE.
PORT ADELAIDE.

WESTERN AUSTRALIA.

PERTH.
YORK.
FREMANTLE.
ALBANY (KING GEORGE'S SOUND).
GERALDTON (CHAMPION BAY).

TASMANIA (Van Diemen's Land).

HOBART TOWN.
OATLANDS.
LAunceston.
LATROBE.

NEW ZEALAND.

AUCKLAND.	GRAHAMSTOWN (THAMES GOLD FIELDS).
HAMILTON (WAIKATO).	
WELLINGTON.	NAPIER
WAIPUKURAU	
PORT AHURIRI	} HAWKE'S BAY.
GIBSONE, (POVERTY BAY.)	
NELSON.	} WESTLAND.
HOKITIKA	
GREYMOUTH	} CANTERBURY.
WAIMEA	
KUMARA	} OTAGO.
CHRISTCHURCH	
LYTTELTON	
TIMARU	
ASHBURTON	
RANGIORA	
SOUTHBRIDGE	
WAIMATE	
SEFTON	
DUNEDIN	
OAMARU	
INVERCARGILL	

Letters of Credit and Bills of Exchange upon the Branches are issued by the Head Office, and may also be obtained from the Bank's Agents throughout England, Scotland, and Ireland.

Bills on the Colonies are purchased or sent for collection.

Deposits are received at the Head Office at rates of interest and for periods which may be ascertained on application.

LONDON : June 1880.

W. R. MEWBURN, Manager.

THE COMMERCIAL BANKING COMPANY OF SYDNEY.

ESTABLISHED 1834. INCORPORATED 1848.

CAPITAL, £500,000. RESERVE FUND, £570,000.

HEAD OFFICE, SYDNEY—GEORGE STREET.

BRANCHES IN SYDNEY.

EASTERN BRANCH—Oxford Street. | SOUTHERN BRANCH—Haymarket.

BRANCHES IN NEW SOUTH WALES.

Adelong.	Cannonbar.	Goulburn.	Mudgee.	Singleton.
Albury.	Carcoar.	Grafton.	Murrurundi.	Tamworth.
Armidale.	Casino.	Gundagai.	Muswellbrook.	Taree.
Barraba.	Cobar	Gunnedah.	Narandena.	Wagga
Bathurst.	Coolamundra	Gunning.	Narrabri.	Wagga.
Bega.	Cooma.	Inverell.	Newcastle.	Walcha.
Berrima.	Coonamble.	Kempsey.	Orange.	Walgett.
Bingera.	Copeland	Kiama.	Parkes.	Warren.
Blayney.	North.	Lismore.	Parramatta.	Wellington.
Bombala.	Coraki.	Lithgow.	Penrith.	Wentworth.
Bourke.	Dubbo.	Maitland.	Picton.	Wilcannia.
Bowral.	Dungog.	Merriwa.	Queanbeyan.	Windsor.
Brewarrina.	Forbes.	Milton.	Quirindi.	Woodburn.
Camden.	Germanton.	Molong.	Richmond.	Wollongong.
Campbell-town.	Glen Innes.	Morpeth.	Shoalhaven.	Yass.
				Young.

BRANCHES IN QUEENSLAND.

Brisbane. | Dalby. | Mackay. | Maryborough. | Rockhampton.

BRANCH IN LONDON—39 Lombard Street.

AGENTS.

ENGLAND—LONDON—London and Westminster Bank; London and County Bank.
LIVERPOOL—Liverpool Union Bank.
MANCHESTER—Manchester and Salford Bank.

IRELAND—Belfast Banking Company and Branches; National Bank and Branches.

SCOTLAND—Commercial Bank of Scotland and Branches.

VICTORIA—Bank of Victoria and Branches; National Bank of Australasia; Colonial Bank of Australasia; Commercial Bank of Australia.

WESTERN AUSTRALIA—National Bank of Australasia and Branches.

SOUTH AUSTRALIA—National Bank of Australasia and Branches; Bank of South Australia; Bank of Adelaide.

TASMANIA—HOBART TOWN and LAUNCESTON—Bank of Van Dieman's Land.

NEW ZEALAND—National Bank of New Zealand and Branches.

SAN FRANCISCO—Bank of British Columbia.

VALPARAISO—Banco Nacional de Chile.

NEW YORK—Messrs. Drexel, Morgan & Co.

INDIA, CHINA, and SINGAPORE—The Chartered Bank of India, Australia, and China; The Chartered Mercantile Bank of India, London, and China.

CEYLON—The Chartered Mercantile Bank of India, London, and China.

BATAVIA—The Chartered Bank of India, Australia, and China.

MAURITIUS—Messrs. Scott & Co.

HONOLULU—Messrs. Bishop & Co.

EGYPT—Crédit Lyonnais.

Money can be remitted to the credit of parties in the Colonies with the Head Office of the Bank, or either of the above Branches or Colonial Agencies, free of charge.

The London Board of Directors grant Letters of Credit, payable on demand, and Bills of Exchange, upon all the Branches of the Bank. They also negotiate approved Bills upon the Australian Colonies, and send out Bills for Collection.

NATHANIEL CORK, *Manager,*

39 LOMBARD STREET, LONDON.

BANK OF NEW ZEALAND,

Bankers to the New Zealand Government.

**CAPITAL SUBSCRIBED AND PAID UP, £1,000,000.
RESERVE FUND, £555,000.**

HEAD OFFICE: AUCKLAND.

LONDON OFFICE: No. 1 QUEEN VICTORIA STREET, MANSION HOUSE, E.C.

BRANCHES IN AUSTRALIA.

New South Wales—SYDNEY Branch, 181 Pitt Street; NEWCASTLE Branch.

Victoria—MELBOURNE Branch, 15 Queen Street.

Fiji Islands—LEVUKA Branch.

BRANCHES AND AGENCIES IN NEW ZEALAND..

AUCKLAND, Head Office.	HOKITIKA Branch.	Rakaih.
Akaroa.	Hutt.	Raleigh.
Alexandra.	Inglewood.	Rangiora.
Amberley.	INVERCARGILL Branch.	Reefton.
Arrow.	Kaiapoi.	Riverton.
ASHBURTON Branch.	Kaikoura.	Ross.
BLENHEIM Branch.	Kowai Pass.	Roxburgh.
Bulla.	Kumara.	Russell.
Cambridge.	Lawrence.	Sanson.
Carlyle.	Leeston.	Southbridge.
Carterton.	LYTTELTON Branch.	Stafford.
Charleston.	Mangawhere.	Tapanui.
CHRISTCHURCH Branch.	Marton.	Tauranga.
Clinton.	Masterton.	Te Aro
Clutha Ferry.	Mataura.	Te Awamutu.
Coromandel.	Mosgiel.	Temuka.
Cromwell.	NAPIER Branch.	TIMARU Branch.
Dargaville.	Naseby.	TOKOMAIRIRO Branch.
DUNEDIN Branch.	NELSON Branch.	Walkouaiti.
North Dunedin.	NEW PLYMOUTH Branch.	Waimate.
Featherston.	Ngaruawahia (or Newcastle).	Waipawa.
Foxton.	Normanby.	Waipukurau.
Geraldine.	OAMARU Branch.	Wairoa.
GISBORNE Branch.	Opotiki.	Waitahuna.
Gore.	Outram.	WANGANUI Branch.
GRAHAMSTOWN Branch.	Oxford.	Wangarei.
GREYMOUTH Branch.	Palmerston, South	Waverley.
Greytown.	Palmerston, North	WELLINGTON Branch.
Halcombe.	Picton.	WESTPORT Branch.
HAMILTON Branch.	Port Chalmers.	Winton.
Hawera.	Queenstown.	Wyndham.

This Bank grants DRAFTS on any of the above-named places, and transacts every description of BANKING BUSINESS connected with New Zealand, Australia, and Fiji on the most favourable terms.

The London Office receives DEPOSITS at interest for fixed periods, on terms which may be learned on application.

F. LARKWORTHY, Managing Director.

1 QUEEN VICTORIA STREET, LONDON, E.C.

THE NATIONAL BANK OF NEW ZEALAND, LIMITED.

*Incorporated under the Companies' Acts 1862 to 1879, and the
New Zealand Act I., 1873.*

HEAD OFFICE: 37 LOMBARD STREET, LONDON, E.C.

CAPITAL, £2,000,000.

**FIRST ISSUE, £1,000,000. PAID UP, £350,000.
RESERVE FUND, £10,000.**

NUMBER OF SHAREHOLDERS 1,406.

DIRECTORS.

<i>Deputy-Chairman</i> — DUDLEY ROBERT SMITH, Esq.	WILLIAM SMELLIE GRAHAME, Esq.
Col. Sir THOS. GORE BROWNE, C.B., K.C.M.G.	EDWARD BRODIE HOARE, Esq.
Sir CHARLES CLIFFORD.	CHARLES MAGNIAC, Esq., M.P.
ALEXANDER GRANT DALLAS, Esq.	JOHN MORRISON, Esq.
SIDNEY YOUNG, Esq.	
<i>General Manager</i> — WILLIAM JOHNSTONE STEELE, Esq.	
The BANK of ENGLAND and BRANCHES.	
<i>Bankers</i> { Messrs. BARNETTS, HOARES, HANBURYS, & LLOYD.	(The ROYAL BANK of SCOTLAND.)

BRANCHES AND AGENCIES IN NEW ZEALAND:

AUCKLAND.	NAPIER.	TIMARU.
BALCLUTHA (or Clutha Ferry).	NELSON.	TOKOMAIRIRO.
BLENHEIM.	NEW PLYMOUTH.	WAIKAIA.
CHRISTCHURCH.	CAMARU.	WAIMATE.
DUNEDIN.	OUTRAM.	WANGANUI.
Do. (North.)	PORT CHALMERS.	WELLINGTON.
GREYMOUTH.	REEFTON (West Coast).	Do. (TE ARO.)
INVERCARGILL.	RIVERTON.	Do. (THORNDON.)
MOGIEL.	TAPANUI.	
	TAURANGA.	

THE NATIONAL BANK OF NEW ZEALAND, LIMITED,

37 LOMBARD STREET, LONDON, E.C.

Grants Letters of Credit and Drafts on New Zealand payable on demand, or Bills of Exchange at Thirty or Sixty days' sight; and these may also be obtained of any of the above-named Agents throughout ENGLAND, SCOTLAND, and IRELAND.

Receives Deposits of £50 and upwards, for periods of from two to five years at a fixed rate of 5 per cent. per annum, and for shorter periods on terms which can be ascertained on application.

Opens Current Accounts for the convenience of New Zealand constituents. Negotiates Drafts against Goods, on hypothecation of Bills of Lading, Invoices, and Insurance Policies.

Collects Bills payable in New Zealand.

Undertakes the Agency of constituents connected with New Zealand, the purchase and sale of New Zealand Government and other Securities, Shares, &c., receiving the same for custody, and drawing the Interest or Dividends thereon as they fall due; and

Conducts every other description of Banking business between London and New Zealand.

W. J. STEELE, GENERAL MANAGER.

37 LOMBARD STREET, LONDON, E.C., May 1880.

H H

THE COLONIAL BANK OF NEW ZEALAND.

Incorporated by Act of the General Assembly, 1874.

CAPITAL, £2,000,000, in 400,000 SHARES of £5 EACH.

Subscribed Capital, £1,000,000. Number of Shareholders, 1,987.
Reserve Fund, £26,000.

DIRECTORS.

GEORGE MCLEAN, Esq., M.H.B., President.	HON. RICHARD OLIVER, Esq., M.H.R.
ALFRED CHETHAM STRODE, Esq.	JAMES RATTRAY, Esq.
HON. W. H. REYNOLDS, M.L.C.	HON. M. HOLMES, M.L.C.
A. W. MORRIS, Esq.	

GENERAL MANAGER.

GEORGE COWIE, Esq.

HEAD OFFICE: DUNEDIN, OTAGO.

BRANCHES.

PROVINCIAL DISTRICT OF OTAGO.

INVERCARGILL.	CROMWELL, WITH AGENCY AT OPHIR.	OUTRAM and EAST TAieri.
OAMARU.	BALCLUTHA & KAITANGATA.	LAWRENCE.
PALMERSTON and HAMPDEN.		GORE.
PROVINCIAL DISTRICT OF CANTERBURY ..	..	CHRISTCHURCH & RANGIORA.
PROVINCIAL DISTRICT OF WELLINGTON ..	..	WELLINGTON.
PROVINCIAL DISTRICT OF NELSON ..	..	NELSON.
PROVINCIAL DISTRICT OF HAWKE'S BAY ..	..	NAPIER.
PROVINCIAL DISTRICT OF AUCKLAND ..	..	AUCKLAND.

London Office: No. 13 Moorgate Street, E.C., London.

THE NATIONAL BANK OF SCOTLAND.

Incorporated by Royal Charter. Established 1825.

HEAD OFFICE, EDINBURGH.

CAPITAL, £5,000,000. PAID UP, £1,000,000.

RESERVE FUND, £500,000.

LONDON OFFICE, 37 Nicholas Lane, Lombard Street, E.C.

CURRENT ACCOUNTS are kept agreeably to usual custom. DEPOSITS at Interest are received. CIRCULAR NOTES and LETTERS of CREDIT, available in all parts of the world, are issued for home and foreign travelling, also for business purposes. CUSTOMERS' SECURITIES are taken charge of. Dividends Collected and Investments and Sales of all descriptions of Securities effected.

At the London Office of the Bank, and at the Head Office and Branches throughout Scotland, every description of Banking business connected with Scotland is also transacted.

WILLIAM STRACHAN, } Managers in
JAMES COWAN, } London.

CONTRACTORS TO THE ADMIRALTY.

INDIA RUBBER, GUTTA PERCHA, AND TELEGRAPH WORKS COMPANY

LIMITED,

SILVERTOWN, ESSEX,

MANUFACTURERS OF

VULCANISED INDIA RUBBER.

'SPECIAL QUALITY' to resist the Action of Mineral Oils and High Pressure Steam.

VULCANISED INDIA RUBBER HOSE,

SPECIALLY PREPARED FOR USE IN THE TROPICS.

STEAM PACKING, VULCANISED MACHINE BELTING,
GARMENTS, FABRICS, &c.

EBONITE,

NOT AFFECTION BY HYDROCHLORIC OR ACETIC ACIDS.

Gutta Percha Tubing, Belting, Buckets, Sheet, &c.

INDIA RUBBER OR GUTTA PERCHA COVERED

SUBMARINE, SUBTERRANEAN, AND AERIAL
TELEGRAPH CABLES,
AND TELEGRAPH STORES OF ALL KINDS.

TORPEDO APPARATUS,

As used by the Services of Great Britain and the United States,
and of the Chief Countries of Europe.

WAREHOUSE AND OFFICE:

100 & 106 CANNON STREET,
LONDON, E.C.

LONDON & LANCASHIRE LIFE ASSURANCE COMPANY.

HEAD OFFICE:

LONDON: CORNER OF LEADENHALL STREET, CORNHILL.

BOARD OF DIRECTION.

Chairman—Colonel KINGSCOTE, C.B., M.P.

Deputy-Chairman—Alderman Sir THOS. DAKIN.

HON. EVELYN ASHLEY, M.P.	JOHN J. KINGSFORD, Esq.
ABEL CHAPMAN, Esq.	R. BARCLAY REYNOLDS, Esq.
SAMUEL GURNEY SHEPPARD, Esq.	

PROGRESS OF THE COMPANY.

Average Annual Amount of New Business for Five Years to Dec. 31, 1877:—

Sums Assured	£318,120
New Premiums	nearly £10,000

Amount for the Year ending Dec. 31, 1879 (the 2nd of the New Quinquennium):

Sums Assured	£338,148
New Premiums	£11,873

On this occasion the New Business covers a period of only Eleven Months, in order that the books for the New Premiums, as well as Renewals, might be closed on Dec. 31. The Amount of £12,984. 17s. 4d. as the result of the past year was added to the Funds, which now stand at £183,329. 12s. 5d.

Special attention is drawn to the Revised Moderate Rate now charged for persons proceeding to or residing in India, and to the improved facilities for Foreign Travel and Residence generally.

Assurances of every description effected on most favourable terms.

MELBOURNE BRANCH:

9 MARKET BUILDINGS, WILLIAM STREET.

Secretary, THOMAS W. MOULE.

SYDNEY BRANCH:

NEW PITT STREET.

W. H. MACKENZIE & CO.

Agencies throughout the Colonies.

W. P. CLIREHUGJ, *Manager and Actuary.*

Norwich Union FIRE INSURANCE SOCIETY.

ESTABLISHED 1797.

CHIEF OFFICES:

NORWICH	SURREY STREET.
LONDON	50 FLEET STREET.

PRESIDENT	HENRY STANIFORTH PATTESON, Esq.
SECRETARY	CHAS. E. BIGNOLD, Esq.
ASSISTANT SECRETARY	C. A. B. BIGNOLD, Esq.

INSURANCES AGAINST FIRE,

At Home and Abroad, effected at reasonable rates of Premium.

LOSSES promptly and liberally settled.

SECURITY unquestionable.

BRANCHES AND AGENCIES.

VICTORIA.

MELBOURNE E. F. Yencken, 44 Queen Street.

NEW SOUTH WALES.

SYDNEY W. C. Goddard, & Co., The Exchange.

QUEENSLAND.

BRISBANE Quinlan, Gray, & Co., Merchants.

SOUTH AUSTRALIA.

ADELAIDE J. G. Boothby, Currie Street.

TASMANIA.

LAUNCESTON : : : : : Alexr. Corrie.

HOBART TOWN : : : : : C. H. Elliston.

NEW ZEALAND.

AUCKLAND W. T. J. BELL, 7 Queen Street.

CHRISTCHURCH J. M. Heywood & Co., Merchants.

DUNEDIN Gillies, Street, & Hislop, Estate Agents.

NELSON W. M. Stanton, Merchant.

WELLINGTON B. Smith & Co., Lambton Quay.

SUTTON'S GRASS SEEDS

FOR ALL SOILS AND CLIMATES.



SUCCESS OF SUTTON'S GRASS SEEDS IN NEW ZEALAND.

*One of our Customers, in a letter dated January 8, 1880,
says :*

'My Agent in New Zealand is desirous of planting
450 acres of my land there in English grasses. He
writes as follows: "I told you in a former letter that
Sutton's Grass Seeds had been tried by a friend of
mine with marked success. I therefore recommend
you to send me seeds from Sutton's in a quick ship."

SAMPLES, LOWEST QUOTATIONS, AND FULL PARTICULARS GRATIS AND POST
FREE ON APPLICATION.

SUTTON & SONS,
READING AND LONDON, ENGLAND.

HURST & SON, WHOLESALE SEED MERCHANTS.

HEAD OFFICE AND SAMPLE ROOMS,
6 LEADENHALL STREET, LONDON, E.C.
STAND No. 39, SEED MARKET, MARK LANE.

SEED WAREHOUSES:
FOR FLOWER SEEDS,
153 HOUNDSDITCH.
FOR GARDEN AND FARM ROOT SEEDS,
1, 2, & 3 GUN SQUARE, & CHURCH ROW,
HOUNDSDITCH.

FOR CLOVERS AND GRASS SEEDS,
CHURCH STREET, MINORIES.

ALL COMMUNICATIONS TO BE ADDRESSED TO 6 LEADENHALL
STREET.

Agricultural, Garden, and Flower Seeds for Exportation to all
parts of the World, carefully packed and selected.

CATALOGUES AND TERMS OF SHIPMENT ON APPLICATION.

MERCHANTS AND THE TRADE SUPPLIED ON MOST ADVANTAGEOUS TERMS.

S. W. SILVER & CO.'S AUSTRALIAN GRAZIER'S GUIDE.

Crown 8vo. limp cloth, price 2s. 6d.

OPINIONS OF THE PRESS.

THE FIELD.—‘This little work is intended to supply, as fully as may be in a small compass, an admitted want in Colonial literature; and is, indeed, exactly the sort of “Guide” for the assistance and instruction of those who propose to try their fortune as stock-raisers abroad, and who so frequently inquire of *The Field* for such help as is afforded by its pages. In it will be found suggestions and advice bearing upon every stage of an Australian sheep-farmer’s career; including the investment of capital, selection of land, acquirement of a knowledge of detail, purchase of stock, and its subsequent management at every stage and under all circumstances, station life, preparation and consignment of wool, &c., with sound warnings as to the things to be avoided as well as those to be pursued. Instructions are also given for the treatment of the ills to which Antipodean sheep are especially liable. The work concludes with the reiteration of its initial key-note—a caution as to headless outlay in the incipient stages of pastoral settlement. “Economy, in all respects, cannot be too frequently insisted upon.” With this text in view, and a firm belief in the necessity of personal exertion, or of yet more useful strict personal supervision, there seems no reason to doubt the writer’s opinion, that any man who has straightforward industry and common prudence, and who commences with 1,000 ewes in Australia, need not doubt of a competence in middle life, or despair of a fortune, possibly a very large one.’

FARMER’S GAZETTE (Dublin).—‘It is evidently the production of one who has gone through all he describes, and his practical advice will prevent “new chums” from wasting their capital at the first start; whilst, if that advice is strictly followed, they will be put in the way of gaining a competence and, it may be, a fortune in the bush.’

AGRICULTURAL GAZETTE.—‘The advice given to any one desirous of becoming a squatter is excellent. He is taught how to choose a run and buy his stock, as well as to fence, engage the necessary hands, wash and shear, and all other work required on a sheep station.’

FARM JOURNAL.—‘A safe and able adviser. The opinion of the oldest and most experienced residents is that more money has been made, is being made, and will in the future be made, by pastoral farming or “squatting” than by all other vocations and professions combined.’

GLOBE.—‘Contains a vast amount of valuable information and suggestions to those who purpose to become stock-raisers abroad, and especially at the Antipodes.’

AUSTRALIA AND NEW ZEALAND GAZETTE.—‘The thoroughly practical manner in which the many details of stock-raising in Australia are treated by the author renders it eminently serviceable to those for whom it is intended.’

NOTTINGHAM GUARDIAN.—‘The book, to those who take an intelligent interest in the progress of Greater Britain, is instructive, while to those who contemplate emigration it is simply invaluable.’

QUEEN.—‘It is written in a plain, straightforward, and practical style, and deals with all the topics about which a young man may wish to receive instruction.’

DUNDEE ADVERTISER.—‘It contains in a small space a very large amount of useful information on all kinds of pastoral pursuits connected with Australian Colonies, which will undoubtedly be found invaluable for intending emigrants.’

UNIVERSITY MAGAZINE.—‘The experiences of Colonial life, as squatters and otherwise, are carefully counted up; the advantageous prospects are not exaggerated; the difficulties are not diminished; the drawbacks are not withheld.’

EDINBURGH COURANT.—‘Young Britons with a thousand or two of capital can scarcely find a more profitable enterprise than Australian sheep-farming, as the profits are secure and the employment healthy. The intending settler should not fail to procure a copy of this valuable handbook.’

S. W. SILVER & CO., Sun Court, 67 Cornhill, London.



AGRICULTURAL SEEDS,

GRASS SEEDS,

GARDEN SEEDS,

FLOWER SEEDS,

*Carefully Selected, Packed, and Delivered Free to
Docks in London.*

CATALOGUES FREE ON APPLICATION.

ESTABLISHED 100 YEARS.

BROWN & POLSON'S PATENT CORN FLOUR,

First Introduced by them more than Twenty Years since,

Has a pre-eminent reputation in the United Kingdom, and

IS LARGEY USED IN ALL PARTS OF THE WORLD.

IT IS MOST USEFUL FOR INFANTS AND INVALIDS,

**FOR TABLE DELICACIES, AND FOR THICKENING SOUPS,
SAUCES, BEEF-TEA, &c.**

NEW LONDON ADDRESS:

99 QUEEN VICTORIA STREET, E.C.

UPS AND DOWNS:

A STORY OF AUSTRALIAN LIFE.

Crown 8vo. 312 pp. Illustrated Cover.

PRICE 2s.

OPINIONS OF THE PRESS.

Australasian (Melbourne).—‘Ups and Downs’ is what it professes to be, “a story of Australian life,” and a very good one; or, more strictly, it is a story of Australian squatting life, and depicts every phase of incident or fortune to which squatting life is subject. It so fully portrays all the aspects of the life of a squatter that it might, better than many a formal “guide” or “manual,” be put in the hands of a young squatter, as showing all of the contingencies to which the career he was entering upon was liable.’

Town and Country Journal (Sydney).—‘There are novelists and novelists, and the author of the above novel does not certainly belong to the second-class, for there is enough talent—at times even reaching to almost genius—in his work to form the backbone for a dozen of the ordinary works of fiction of the period, and still leave him *sus generis* the best writer of Australian fiction of his day, and the Fennimore Cooper of the aborigines and pioneers of this vast South Land, only with a higher and more chivalrous tone in his general writings than belonged to the great novelist of the woods and prairies of the Far West.’

Saturday Review.—‘It is not often that stories of Colonial life are so interesting as Mr. Boldrewood’s “Ups and Downs.” There is enough story in the book to give connected interest to its various incidents, and these are all told with considerable spirit, and at times picturesqueness. The hero of the volume is a certain Jack Redgrave, who, although he possesses a very pleasant cattle station which gives him a comfortable income, gets bitten with the sacred thirst for gold, sells his station, buys a huge sheep-run, prospers for a while, then comes to grief, and finally buys back his old station, marries, and lives happily ever afterwards. There is hardly a phase of a Colonial squatter’s life some twenty years ago of which we do not get a glimpse in the course of this lively and pleasant little volume. Not the least interesting character who is introduced in it is a native girl, whose nature and talk are much like that of Jacky in “It is Never too Late to Mend.”’

The Field.—‘In the present volume there is no straining after effect; but the routine of squatting life, with its good and bad seasons, the habits of such of the natives as are met with, the speculations of financiers, and the dangers of explorers, are skilfully depicted (in a style not altogether unlike that of Henry Kingsley in his well known “Geoffry Hamlyn”). The details are filled in by a hand evidently well conversant with his subject, and everything is *ben trovato*, if not actually true. A perusal of these cheerfully written pages will probably give a better idea of realities of Australian life than could be obtained from many more pretentious works.’

Daily Chronicle.—Now that the question of emigration is again occupying public attention, this story of farming speculations and experiences will be of some service as well as affording interest to the mere novel reader.’

Citizen.—‘One of the healthiest and most interesting books recently published.’

Scotsman.—‘The book is full of lively adventure and incident, and it is written with much humour and dash; it combines in an uncommon degree the qualities of amusing and instructing at the same time. We do not remember meeting with any work, grave or gay, which gave so graphic a view of the details of pastoral life in Australia as is furnished in “Ups and Downs.”’

Dundee Advertiser.—‘A fascinating story of Australian life, and brimful of all the exciting scenes incidental to pioneer experience.’

London: S. W. SILVER & CO., Sun Court 67 Cornhill.

BEAN, WEBLEY, & CO.

Wholesale, Export, & Manufacturing Stationers,

ENGRAVERS,

LITHOGRAPHERS, LETTERPRESS PRINTERS,

AND

ACCOUNT BOOK MANUFACTURERS,

34 & 35 ST. MARY-AT-HILL, EASTCHEAP,

LONDON, E.C.

*Particular attention paid to all SHIPPING ORDERS, which are
executed on the shortest notice.*

STEPHENS' WRITING FLUIDS AND COPYING INKS.

PARIS, 1867.—Silver Medal. HAVRE, 1868.—Silver Medal.
AMSTERDAM, 1868.—Silver Medal. LYONS, 1872.—Prize Medal.
VIENNA, 1873.—Prize Medal. PHILADELPHIA, 1876.—Medal of Merit.
PARIS, 1878.—Silver Medal. SYDNEY, 1879-80.—First Award.

Being the highest award made at each exhibition. They embrace the higher qualities of Writing and Copying Inks, and each possesses some special character adapted to the many different requirements of correspondence and counting-house. These distinctive features, and their general excellence, make them preferable to, and more widely useful than the ordinary class of manufacturers.

STEPHENS' BLUE-BLACK WRITING FLUID.

STEPHENS' BLUE-BLACK COPYING FLUID.

STEPHENS' SCARLET INK FOR STEEL PENS.

THE ABOVE, WITH EVERY DESCRIPTION OF
WRITING AND COPYING INK, GUM MUCILAGE, to resist Fermentation
in hot Climates, QUILLS AND SEALING WAX,

Are Manufactured by

H. C. STEPHENS,
CHEMIST,

Proprietor of Stephens' and H. C. Stephens' Labels and Trade Marks,
ALDERSGATE STREET, LONDON, E.C.

Sold by all Booksellers and Stationers throughout the world.

British and Foreign Bible Society,

146 QUEEN VICTORIA STREET, LONDON, E.C.

THE BRITISH AND FOREIGN BIBLE SOCIETY was formed in the year 1804, for the exclusive purpose of promoting the circulation of the Scriptures, without note or comment, both at home and abroad.

The CONSTITUTION of the Society admits of the cordial co-operation of all persons favourable to the object. Accordingly, its proceedings are conducted by a Committee, consisting of thirty-six laymen, six of whom are foreigners, resident in London and its vicinity; of the remainder, one half are Members of the Church of England, and the other half are members of other denominations of Christians.

RECEIPTS OF THE SOCIETY

Last year :	£	s.	d.
For the General Purposes.....	110,806	7	9
For Bibles and Testaments	99,734	16	4
For the Special Fund.....	1,854	2	8
For Roxburgh Fund.....	159	5	11
For the Paris Exhibition Fund.	820	2	5
Total.....	£218,374	14	8

ISSUES OF THE SOCIETY

Last year :	Copies.
From the Depository at Home ..	1,875,673
," Depositories Abroad ..	1,404,689
Total Issues of Copies for the year	2,780,363
Issues from commencement of the Society	88,168,419

EXPENDITURE

Last year :	£	s.	d.
Expenditure from commence- ment.....	193,539	13	7

LANGUAGES OR DIALECTS

Directly assisted	181
Indirectly	55
Total.....	236
Versions	282
Of these more than four-fifths have been prepared since the year 1804.	

BIBLE SOCIETIES in connection with the British and Foreign Bible Society:—

In Great Britain and Ireland, 4,881. This number is exclusive of the Auxiliaries and Branches of the Hibernian Bible Society, Ireland, which are 491 in number.

In the Colonies and other Dependencies, including 7 Auxiliaries in Europe, 1,292.

FOREIGN SOCIETIES formerly or at present aided, including their branches, are about 4,000.

AGENTS are employed, or Delegates have been established, in the following Countries:—

France, Belgium, Holland, Germany, Switzerland, Austria, Sweden, Norway, Denmark, Russia, Italy, Spain, Portugal, Turkey, Greece, Egypt, Syria, India, China, Australia, New Zealand, Canada, the Brasilia, West Indies, and in South Africa.

The Committee earnestly invite attention to the importance and magnitude of the work in which the Society is engaged. The results already achieved have proved an incalculable blessing to the world; but the operations still to be carried out demand the liberal assistance of all who desire the universal diffusion of the Scriptures. Any readers of this paper who may wish to afford such assistance can do so by either or both of the following methods:—

1. An Annual Subscription, Donation, &c., to the Parent Society in London, or to any of its Auxiliaries, Branches, and Associations in the Country.
2. The formation of Societies to co-operate with the Parent Society in those districts hitherto unoccupied.

Information on this or any other subject connected with the Institution may be obtained by applying to the Secretaries, or other Officers, at the Bible Society House, 146 Queen Victoria Street, London, E.C.

ONE 'SPORTING' ARM FOR BOTH LARGE & SMALL GAME.

The attention of Hunter-Sportsmen and other Travellers who desire to take the least possible quantity and weight of equipment is directed to the advantages of the 'Transvaal,' the compactness and portability of which are among its prominent features.

THE 'TRANSVAAL' GUN AND RIFLE COMBINED,

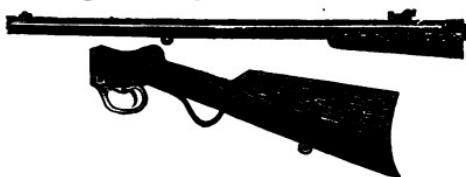
Is a short and light, but powerful Sporting Arm with Martini Breech action for rapid firing, and has the 'New Barrel Detachment,' by means of which *interchangeable* barrels are adapted, to take Snider, Martini-Henry, 577 Express, and No. 12 Rifle Ammunition, for big game; and shot barrels of 20, 16, or 12 Bore for Birds and ordinary sport. The Shot Barrels may be Choke-Bored or Cylinder for Ball or Shot. One Mould casts Hollow or Solid Bullets.

By the Barrel Detachment, which is adapted without adding a single piece to the Rifle, the parts of the works which require oiling and cleaning as well as the barrel itself, are exposed to view; whilst the length of the Arm is considerably reduced for packing.

The 'Transvaal' is fitted with Silver's Patent Heel-Plate which neutralizes the Recoil, and admits of the weapon being made unusually light; the extra weight of metal generally put into heavy shooting guns to counteract the recoil being dispensed with. Thus the 'Transvaal' is very handy for use on horseback, for which purpose the 'Transvaal' Bucket has been specially designed. The weapon is also readily convertible into a Small-bore Rifle for shooting deer and small game, using revolver ammunition.



THE 'TRANSVAAL,'
With Interchangeable Shot Barrel, forming Gun and
Rifle combined.



With Patent Detachment, showing Barrel separated from Stock, and facilities for cleaning.

A very considerable number of 'Transvaal' Rifles are in use in many parts of the World, and have received the unqualified approval of many well-known hunters.

Weight of Rifle, 7 lb.; length of barrel, 27 inches; case when packed. 2 ft. 5 in. long.

PRICES: 'Transvaal,' with Martini or Snider Barrels and Safety Bolt, £7. 12s.; ditto, with .450 Express Barrel, £10; with .577 Express or No. 12 Rifle Barrels, £12. 12s. Interchangeable 12, 16, or 20-Shot Barrels, 60s. each. Converting Chambers to fit Martini Barrel, and taking Revolver Cartridge, 5s. each.

Full Particulars on Application to

S. W. SILVER & CO., Sun Court 67 Cornhill, London, E.C.

S. & H. HARRIS'S
WATERPROOF

HARNESS COMPOSITION
AND
SADDLE PASTE.

POLISHING PASTE

FOR CLEANING METALS AND GLASS.

HARNESS LIQUID.

JET BLACK OIL FOR HARNESS.

PLATE POWDER, URN POWDER, STEEL POWDER,
BRUNSWICK BLACK.

*BLACK DYE, FOR STAINING HARNESS,
AND ALL KINDS OF LEATHER.*

FURNITURE POLISH AND FURNITURE CREAM.

SHOE BLACKING.

DUBBIN FOR BOOTS AND HARNESS.

MANUFACTURED BY

S. & H. HARRIS,
57 MANSELL STREET, LONDON, E.



COLTS and YOUNG UNTRACTABLE HORSES Broken, by KIND and GENTLE TREATMENT, Temperate and Easy Mouthed, by using

BLACKWELL'S Patent Whalebone and Gutta Percha Jockeys, Rubber Spring Reins, 70s. ; Hire, 2s. per week.

Anti-Crib Biting Straps, 2ls. Various Muzzles, Windsucking Bits, &c.

BLACKWELL'S Rubber Springs for Saddle Straps, Girths, &c., 2s.

BLACKWELL'S Safety Springs to Riding and Driving Reins, 12s. per pair.

BLACKWELL'S Leg Fomeuters (upon the Syphon principle), 15s.

BLACKWELL'S Fetlock, Leg, and Knee Boots, Patent Springs, &c.

BLACKWELL'S Metal Springs to Chains, Whips, Reins, &c.



BLACKWELL,

PATENT SADDLERY AND HARNESS MANUFACTURER, &c.

TO HER MAJESTY AND H.R.H. PRINCE OF WALES.

259 OXFORD STREET (near the Marble Arch), and of all Saddlers.

SADDLERY AND HARNESS FOR INDIA AND THE COLONIES.

MILROY & SONS

MANUFACTURE AND HAVE ALWAYS ON HAND A LARGE STOCK OF EVERY DESCRIPTION OF

SADDLERY AND HARNESS

PECULIARLY ADAPTED FOR USE IN INDIA, AUSTRALIA,
AND THE OTHER COLONIES.

MANUFACTORY:—

132 LEADENHALL STREET, LONDON.

S. W. SILVER & CO.'S DEPARTMENTS.

CLOTHING of every description for use in INDIA, the COLONIES, and EVERY PART OF THE WORLD—including Naval and Military Uniforms—PRIVATE CLOTHING FOR HOME USE, and of Gossamer Cloths, Tropical Tweeds, and other Specialities for various Climates, &c., SHIRTS, Pyjamahs, Hosiery and Underclothing, &c.

PORTABLE BARRACK AND CABIN FURNITURE; Deck Chairs, Ship Bedding, Packing Cases, and Boxes for the Hold; Tents, Hammocks, &c.

EST
ORIENTAL AND OVERLAND TRUNKS of regulation Cabin size, Portmanteaus, 'Gladstone' and fitted Bags, Hat Cases, Dressing Cases, and Leather Goods generally. Japanned Tin Air-tight Boxes fitted with Indiarubber.

FIREARMS, including Guns, Rifles and Revolvers of the most improved patterns, also S. W. SILVER & CO.'S Patent 'Transvaal' Rifle, and Patent Anti-Recoil Heel-plate, and Steel Chambers for converting a Breech-loader into a Muzzle-loader; Ammunition, Loading Implements, &c.

SADDLERY: 'Colonial' Saddles—Pack Saddles, &c.—Web Bridles—Mule Harness—Stock Whips, &c.

COLONISTS' TOOLS: Roll-Up Cases of Farriers' or Carpenters' Tools, Felling Axes, &c.—Surveying and Scientific Instruments—Sporting Knives, &c., in every variety.

WATERPROOF GARMENTS and Indiarubber Goods of every description, Oilskin Suits and Sou'Westers.

VENTILATED FELT AND PITH HELMETS, TWEED HATS AND CAPS.

LADIES' AND CHILDREN'S UNDERCLOTHING T FOR INDIAN, COLONIAL, AND HOME USE.

CONTRACTS for the Supply of Clothing, Accoutrements, &c., for Home and Colonial Volunteer Forces, and for Emigrants' necessaries, &c.

EXPORT DEPARTMENT: Indents entrusted to S. W. Silver & Co., for Agricultural Implements, Machinery, Seeds, Furniture, and Goods of every description will be carefully executed, and the goods forwarded in the most economical manner to British Possessions and elsewhere all over the world.

PASSAGES SECURED, INSURANCES EFFECTED, PASSENGERS' BAGGAGE AND GOODS OF ALL KINDS RECEIVED, PACKED, AND SHIPPED.

COLONIAL HANDBOOKS, MAPS, &c.
CIRCULAR NOTES (S. W. SILVER & CO.'S)
IN DUPLICATE, PAYABLE ALL THE WORLD OVER.

SUN COURT, 67 CORNHILL, LONDON.

A. W. R. & N. POTT,

ESTABLISHED

1641



VINEGAR MAKERS, 22 Southwark Bridge Road, LONDON.

GEORGE WHYBROW'S

'REGISTERED' SPECIALITIES, viz.:—

THE 'WARRANTED' PICKLES.

SELECTED VEGETABLES IN PURE GRAIN VINEGAR.

SEE DR. HASSALL'S REPORT.

THE 'EAGLE' PICKLES.

THE 'LONDON' PICKLES.

THE SOUTH AMERICAN 'DIGESTIVE' PICKLE.

SEE DR. HASSALL'S REPORT.

ALSO

WHYBROW'S POPULAR 'RELISS.'

THE ABOVE ARTICLES MANUFACTURED ONLY BY

GEORGE WHYBROW,
WELLCLOSE SQUARE, LONDON, E.

IMPERIAL FEDERATION OF GREAT BRITAIN AND HER COLONIES.

By FRED K. YOUNG,

Handsomely Bound, Small 4to. 6s.

WESTMINSTER REVIEW :—'Brings all the aspects of the subject forward in a controversial form, the writers differing somewhat from one another on points of detail, though mostly agreed on the general policy of incorporating the Colonies closely with each other and with the United Kingdom.'

GLOBE :—'The arguments in favour of the proposal will be found stated with much force and clearness. It is probably a subject destined to be more warmly debated hereafter.'

ILLUSTRATED LONDON NEWS :—'It affords a comprehensive display of various shades of opinion with reference to the best plan of organising federal union.'

DAILY TELEGRAPH :—'With evidently earnest faith in the practicability of averting the disruption and loss of our Colonial Empire, a compilation of letters which originally appeared in *The Colonist*—a journal devoted to the interests of English settlements in all parts of the world—has been made by Mr. Frederick Young. . . . The book may fairly be commended to all who study the outlook of colonial fortunes.'

STANDARD :—'A valuable contribution to the discussion of a large question.'

SCOTSMAN :—'The volume is likely to be useful, as presenting a vigorous statement of both sides of a most important question.'

CIVIL SERVICE REVIEW :—'We earnestly commend Mr. Young's valuable book to the attention of the public.'

HOMES NEWS :—'A most valuable book; well worth reading.'

THE POCKET DOCTOR FOR THE TRAVELLER AND COLONIST.

BY HARRY LEACH, M.R.C.P.

Late Medical Officer of Health to the Port of London, &c.

Second Edition, revised. With Coloured Season's Chart of the World.
Limp cloth, price 3s.

This little book shows what ought to be done and what ought not to be done in cases of illness or injury.

OPINIONS OF THE PRESS.

LANCET.—'Such a work was very much needed. It is, indeed, surprising that so few such exist, considering the number and extent of our Colonies. What the Colonist wants are plain, practical, short accounts of disease and treatment, and with these he is now well supplied in this little work.'

ILLUSTRATED LONDON NEWS.—'May be strongly recommended to all travellers ashore and afloat, including yachtsmen, sportsmen, settlers in the bush and the prairie, railway engineers in India, miners, sheep-farmers, and lonely Colonists, who are beyond the reach of medical aid.'

PHARMACEUTICAL JOURNAL.—'It is one of the most practical handbooks of the kind we have yet seen for the purposes of the ship captain and Colonist, and well calculated to meet most emergencies.'

S. W. SILVER & CO., Sun Court, 67 Cornhill, London.

TRADE MARK.—SANCTIONED BY HER MAJESTY'S GOVERNMENT.

HEALTH,
STRENGTH,

**DR. LALOR'S
PHOSPHODYNE.**

ENERGY.

Discovered and so named, A.D. 1862, by R. D. Lalor, M.D.

A Pure Solution of PHOSPHORUS in combination with Quinia, Cypridin and Xantholin, the Wonder of Modern Chemistry, free from Strychnia, and all Dangerously Active Drugs. Pleasant to the taste, and the only Safe, Prompt, and Reliable PHOSPHORIC REMEDY for Overworked Brain, Worry, Anxiety, Excitement, Late Hours, Business Pressure, Nervous Prostration, Nerve Pain, Wasting Diseases, Asthmatic, Consumptive, Stomach and Liver Complaints, Impaired Nutrition, Impoverished Blood, Premature Decline, and all morbid conditions of the system, dependent upon the deficiency of the Vital Forces.

DR. LALOR'S PHOSPHODYNE

Purifies and enriches the Blood; Clears the Skin; thoroughly invigorates the Brain, Nerves, and Muscles; Re-energizes the Falling Functions of Life, purifying the PHOSPHORIC element which has been wasted, and thus imparts energy and fresh vitality to the exhausted Nervo-Electric Force, and rapidly cures every form of Nervous Debility, Paralysis, Nervous Mind and Heart Disease, from whatever cause.

C A U T I O N.—The Name DR. LALOR'S PHOSPHODYNE is blown in the glass of each bottle, and the genuine Phosphodyne is manufactured at WHOLESALE and EXPORT HOUSES are specially requested to and is obtainable only direct from Dr. Lalor's Laboratory, London, England. WHOLESALE and EXPORT HOUSES are specially requested to NOTE this, and to pass their Indents through the London Houses, or English Firms of known respectability only, to ensure their being supplied with the Special Medicines prepared solely by DR. ROBERT D. LALOR, Bay House, 32 Gaisford Street, London, England.

Sold in Bottles at 4s. 6d. and 11s., by all Export, Wholesale, and Retail Medicine Vendors throughout the World.
IMPORTANT NOTICE.—Every Bottle bears the British Government Stamp, with the words DR. LALOR'S PHOSPHODYNE, London, England, engraved thereon by order of Her Majesty's Honourable Commissioners; IF NOT, IT IS A FORGERY, and you have been imposed upon by a worthless imitator.

'The Phosphoric Treatment of Disease,' with Cures, post free, from
Dr. R. D. LALOR, Bay House, 32 Gaisford Street, LONDON, N.W.

THE SOLE PROPRIETOR AND ORIGINATOR OF PHOSPHODYNE.

A supply or suitable printed matter for distribution will be sent per enclosure to any London House on receipt of a letter of advice.

THE COLONIES AND India;

*A Weekly Journal for the Interchange of Information between all parts
of the British Empire.*

CONTAINS LATEST INTELLIGENCE FROM
AUSTRALIA, SOUTH AFRICA,
NEW ZEALAND, CANADA,
INDIA and CEYLON, WEST INDIES.

&c. &c.,

Leading Articles, Papers, and Correspondence upon important Colonial Questions, Colonial Inquiries and Answers, Latest Colonial and Indian Shipping Intelligence, and other matter of interest to all connected with the Colonies.

**Terms of Subscription to THE COLONIES AND INDIA, Post Free
(for prepayment):**

	(for prepayment):	Quarter.	Half-Year.	
		s. d.	s. d.	
Throughout the United Kingdom	6	6	12	6
To any part of the Continent	7	0	13	6
To Australia, New Zealand, and Fiji, also to South Africa, Canada, United States, and East and West Indies	7	2	12	6

CHEQUES AND P.O. ORDERS TO BE MADE PAYABLE TO S. W. SILVER AND CO.

**PUBLISHING AND ADVERTISEMENT OFFICES:
SUN COURT, 67 CORNHILL, LONDON, E.C.**

COLONIAL MAPS &c.

AFRICA, Tropical and South: a Map of the British Colonies and adjacent Territories, with Routes of Railways, &c. in the South, including the Discoveries of LIVINGSTONE and CAMERON. 22 in. by 21 in., on roller, coloured and varnished, 3s. 6d.

SOUTH AFRICA. A New Map. Coloured Sheet, 1s.; or in cloth case, with Index to 950 Districts, Towns, Rivers; Mountains, &c. Price 1s. 6d.
ILLUSTRATED LONDON NEWS.—‘A good map.’

THE TRANSVAAL : a Recent Map of the Transvaal
and the Surrounding Districts. Compiled from all available Official and Private Information by F. JEPPE, F.R.G.S., Fifteen Years Resident in the Country. Price, Coloured Sheet, 28 in. by 22 in., 5s.; mounted on linen, in sections, and case for pocket, 7s. 6d.

DAILY NEWS.—The map, which is admirably executed, not only shows the position of the new colony in its relation to surrounding territories, but indicates the geological and agricultural character of its various districts, and marks the roads, travellers' routes, and the distances by trochilometer between the stations on the main postal lines.'

ILLUSTRATED LONDON NEWS.—‘An excellent map of the Transvaal and surrounding territories.’ FIELD.—‘The best that can be obtained.’

CAPE ARGUS.—‘One of the most beautiful specimens of engraving we have ever seen; and, so far as we can gather from competent authority, the work is thoroughly reliable.’

AUSTRALIA AND NEW ZEALAND (1880); including the Fiji Islands; also recent discoveries on the mainland. Showing Divisions, Chief Towns, Rivers, Explorers' Routes, &c. Coloured Sheet. 1.

SEASONS-CHART OF THE WORLD: including
also the principal Routes of Commerce, Rainfall, &c. Coloured Sheet, 1s.

S. W. SILVER & CO., Publishers, Sun Court, Cornhill, London.

BY
APPOINTMENT
TO
HER MAJESTY.



FRENCH,
RUSSIAN, AND
ITALIAN
GOLD MEDALS.

CHARLES FRODSHAM & CO.

84 STRAND, LONDON, W.C.

Makers of Clocks, Watches, &c.

OF EVERY DESCRIPTION.

ONLY PLACE OF BUSINESS—

84 STRAND, LONDON.

SIMNITT & CO.

BOOTMAKERS,

**18 BISHOPSGATE STREET,
LONDON,**

In returning thanks to their numerous customers in Australia, India, China, and the Colonies for their kind support, beg to renew their Instructions for Self-Measurement, a close attention to which will ensure the continuance of such an article as that for which their Firm has been so long celebrated. Lay the foot on a piece of paper, and take the outline with a pen or pencil, then take the size round the ball or joint; the same round the instep; again from the heel to the upper part of the instep, and round the calf. If Riding or Long Hunting Boots are required, it will be necessary to state the length of the leg, and measurement round the thigh. Orders to be accompanied by a remittance or reference for payment in London.

A SPECIAL DEPARTMENT FOR LADIES.

SOUTH AFRICA:

INCLUDING

CAPE COLONY, NATAL, THE DIAMOND FIELDS, TRANSVAAL,
ORANGE FREE STATE, DELAGOA BAY, &c.; ALSO A GAZETTEER.

Third Edition, revised. With new Coloured Map.

Crown 8vo. limp cloth, 576 pp. price 5s.

OPINIONS OF THE PRESS.

EASTERN PROVINCE HERALD.—‘Messrs. S. W. Silver & Co. have frequently published small pamphlets descriptive of the British colonies, but the “Handbook” before us is superior to anything of the kind we have seen. The map has been expressly prepared for this work, and seems to be correct so far as we can judge. The author acknowledges the assistance of gentlemen whose names are a sufficient guarantee of the correctness of the information given, which is both varied and extensive. The chapters on scenery and climate, natural history and forests, fruits and flowers, are well deserving of attention. The remarks on ostrich farming are interesting, and the authorities quoted trustworthy. As a whole the “Handbook for South Africa” is got up in a highly creditable manner, and contains a large amount of valuable information. The well-arranged index is a great assistance when reference is required. The colony is indebted to Messrs. Silver & Co. for the publication of this work, which will be of great service to intending immigrants. A work of this kind was wanted, and the Handbook will in some measure supply a desideratum long felt.’

KAFFRARIAN WATCHMAN.—‘A valuable book.’

ATHENAEUM.—‘The requirements of intending settlers, to whom these colonies offer a most promising field of enterprise, have been specially considered; and the sportsman anxious to try the “best shooting ground in the world,” the merchant eager to extend his business, and indeed everyone desirous of gaining some knowledge of one of the most rapidly advancing of British colonies, will find this volume a mine of information.’

FIELD.—‘This publication is one of considerable value. It affords much general and local information about South Africa, as well as forming a handy book of reference, for which latter purpose it is well qualified by the capital method of arrangement observed throughout, and by the addition of a gazetteer and index.’

ILLUSTRATED LONDON NEWS.—‘It should be consulted by all who seek information concerning the British Colonies and the Dutch Republic in that region of the world. Abundant details are supplied of their history, topography, geology, and mineralogy, climate, botany, and zoology; of the character and condition of their native races, their colonial population, agriculture, forests, pastoral resources, mining, trade, and other industries; of their land laws and sales, their tariffs, prices, and wages, and of their government affairs. The volume is furnished with a good map.’

LANCET.—‘We must refer our readers to the book itself for an able and exhaustive description of the climate, which, as has long been known, is, on account of the dryness of the air, specially suited to persons affected with chronic pulmonary disorders. The Handbook contains a great variety of most useful information relative to South Africa.’

BROAD ARROW.—‘The present works far exceed, both in scope and general utility, any of those which have preceded them. Silver, in fact, has become the Murray of our Colonies.’

EMPIRE.—‘The work does not aim at literary merit beyond that of clearness of statement and helpful arrangement: at the same time several of its pages are not wanting in interest. The contents include almost every topic presented by the social, political, industrial, and natural condition of South Africa; in fact, it would be difficult to mention any questionings of an intelligent curiosity about South Africa to which the Handbook does not give a sufficient answer. The dissertation on Cape Wine contains some valuable information, and the paper on Ostrich Farming presents facts of a novel character. The notes on Geology, Botany, and Natural History are copious. The Diamond and Gold Fields are fully described. Altogether an admirable work of its class.’

MITTHEILUNGEN.—‘A book rich in facts, well arranged, and diligently worked out.’

LEEDS MERCURY.—‘It is satisfactory to find a work of this kind supplying in a popular form the very information for which everyone is asking.’

SEVEN PRIZE MEDALS AWARDED.

GOODALL'S HOUSEHOLD SPECIALITIES.**GOODALL'S YORKSHIRE RELISH.**

The Most Delicious Sauce in the World.

Bottles, 6d., 1s., and 2s. each.

GOODALL'S BAKING POWDER.

The Best in the World. 1d. Packets; 6d. 1s. 2s. and 5s. Tins.

GOODALL'S QUININE WINE.

The Best, Cheapest, and most Agreeable Tonic yet introduced.

Bottles, 1s., 1s. 1½d., 2s. and 2s. 3d. each.

GOODALL'S CUSTARD POWDER.

Makes delicious Custards without Eggs, and at Half the Price.

In Boxes 6d. and 1s. each.

GOODALL'S BRUNSWICK BLACK.

For Painting Stoves, Grates, Iron, Tin, &c.

6d. and 1s. Bottles.

GOODALL'S BLANC-MANGE POWDER.

Makes rich and delicious Blanc-Mange in a few minutes.

In Boxes 6d. and 1s. each.

GOODALL'S MUSHROOM KETCHUP.

Great Strength! Perfect Purity!! and Unsurpassed Flavour!!!

6d., 1s. and 2s. Bottles.

GOODALL'S GINGER BEER POWDER.

Makes Three Gallons of the best Ginger Beer in the World for 3d.

In Packets, 3d. and 6d. each.

GOODALL'S EGG POWDER.

One Penny Packet will go as far as Four Eggs, and one Sixpenny Tin as far as Twenty-eight.

In 1d. Packets; 6d. and 1s. Tins,

Shippers and the Trade supplied by the Sole Proprietors,**GOODALL, BACKHOUSE, & CO.***WHITE HORSE STREET, LEEDS.*

DR. J. COLLIS BROWNE'S CHLORODYNE. THE ORIGINAL AND ONLY GENUINE.

This wonderful remedy was discovered by Dr. J. COLLIS BROWNE, and the word CHLORODYNE coined by him expressly to designate it. There never has been a remedy so vastly beneficial to suffering humanity, and it is a subject of deep concern to the public that they should not be imposed upon by having imitations pressed upon them on account of cheapness, and as being the same thing. Dr. J. COLLIS BROWNE'S CHLORODYNE is a totally distinct thing from the spurious compounds called Chlorodyne, the use of which only ends in disappointment and failure.

Remedial Uses and Action.

This INVALUABLE REMEDY produces quiet, refreshing sleep, relieves pain, calms the system, restores the deranged functions, and stimulates healthy action of the secretions of the body, without creating any of those unpleasant results attending the use of opium. Old and young may take it at all hours and times when requisite. Thousands of persons testify to its marvellous good effects and wonderful cures, while medical men extol its virtues most extensively.



- is the best remedy known for COUGHS, CONSUMPTION, BRONCHITIS, ASTHMA.
- effectually checks and arrests those too often fatal diseases known as DIPHTHERIA, FEVER, CROUP, AGUE.
- acts like a charm in DIARRHOEA, and is the only specific in CHOLERA and DYSENTHRY.
- effectually cuts short all attacks of EPILEPSY, HYSTERIA, PALPITATION and SEASMS.
- is the only palliative in NEURALGIA, RHEUMATISM, GOUT, CANCER, TOOTHACHE, MENINGITIS.

The Right Hon. EARL RUSSELL has graciously favoured J. T. DAVENPORT with the following:—

Earl Russell communicated to the College of Physicians that he received a despatch from Her Majesty's Consul at Manilla, to the effect that Cholera had been raging fearfully, and that the ONLY remedy of any service was CHLORODYNE.—See *Lancet*, December 1st, 1864

From Dr. B. J. Boulton & Co., Horncastle.

We have made pretty extensive use of Chlorodyne in our practice lately, and look upon it as an excellent direct sedative and Anti-spasmodic. It seems to allay pain and irritation in whatever organ, and of whatever cause. It induces a feeling of comfort and quietude not obtainable by any other remedy, and it seems to possess this great advantage over all other Sedatives, that it leaves no unpleasant after-effects.

CAUTION.—The extraordinary medical reports of the efficacy of Chlorodyne render it of vital importance that the public should obtain the genuine, which bears the words 'Dr. J. Collis Browne's Chlorodyne.'

Vice-Chancellor Wood stated that Dr. J. COLLIS BROWNE was undoubtedly the Inventor of CHLORODYNE: that the whole story of the Defendant, Freeman, was deliberately untrue.

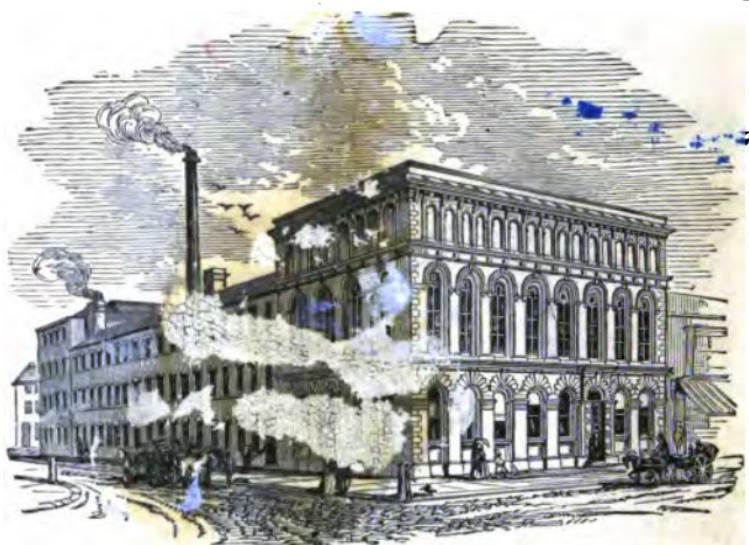
Sold in Bottles at 1s. 1½d., 2s. 9d., and 4s. 6d.

SOLE MANUFACTURER:

J. T. DAVENPORT, Gt. Russell Street, London, W.C.



F. & C. OSLER,



Manufacturers of Chandeliers, Candelabra, Lustres, Wall Lights, and Table Glass of all kinds. Duplex, Moderator, and other Lamps for India and Home use. Ornamental Glass, English and Foreign. China Vases, Flower Stands for Table decoration in great Variety. Dinner, Dessert, Tea, and Breakfast Services in Mintons and Worcester Porcelain and Stone China. Mess, Export, and Furnishing Orders promptly executed. All Articles marked in plain figures.

Birmingham : Manufactory & Show Rooms, Broad St.
LONDON: SHOW ROOMS, 45 OXFORD ST., W.

S. W. SILVER & CO.'S PUBLICATIONS, ETC.

AUSTRALIAN DICTIONARY OF DATES AND MEN OF THE TIME. By J. H. HEATON, Sydney. Royal 8vo. 550 pp., price 12s. 6d.

THE TIMES.—‘A remarkable work . . . Shows more impressively than probably any other kind of publication could, the immense activity of our Australian Colonies, and the rapid advances they have made since their very recent foundation. . . . It is a creditable and useful, and, we believe, trustworthy publication.’

ATHENÆUM.—‘It will be useful to every resident in Australasia, and of interest to those families who have connections in it—and who in these days have not?’

AUSTRALIA AND NEW ZEALAND ; INCLUDING THE FIJI ISLANDS. 3rd Edition, with New Coloured Map. Crown 8vo. limp cloth, 449 pp., price 5s.

THE AUSTRALIAN GRAZIER'S GUIDE. Crown 8vo., limp cloth, price 2s. 6d. See page 30.

UPS AND DOWNS ; A STORY OF AUSTRALIAN LIFE. 312 pp., price 2s. See page 22.

THE RESOURCES OF QUEENSLAND.—126 pp., (with Map), price 1s.

SOUTH AFRICA (WITH NEW MAP AND ILLUSTRATIONS): including Cape Colony, Natal, the Diamond Fields, Orange Free State, &c. 3rd Edition, revised and enlarged. Crown 8vo. limp cloth, 576 pp., price 5s. See page 34.

THE TRANSVAAL (WITH MAP); containing information on the Political, Physical, Commercial, and Social Aspects of the Colony. Crown 8vo. limp cloth, price 2s. 6d.

ON TREK IN THE TRANSVAAL (WITH MAP). By HARRIET A. ROCHE. Crown 8vo. 367 pp., cloth, price 3s. 6d.

EXAMINER.—‘It is brightly and freshly written from beginning to end.’

CLIMATE AND HEALTH IN SOUTH AFRICA.— 125 pp., price 1s., cloth 1s. 6d.

**PHOTOGRAPHIC VIEWS OF THE CAPE AND
NATAL.**—Including Cape Town, Port Elizabeth, King William's Town, Graham's Town, Pietermaritzburg, Durban, and Diamond Fields; also Kaffir Ivory Carriers, price 1s. 6d.

THE POCKET DOCTOR : FOR THE TRAVELLER AND COLONIST. By HARRY LEACH, M.R.C.P. With Seasons'-Chart of the World. 2nd Edition, limp cloth, price 3s. See page 30.

THE KEY TO FORTUNE IN NEW LANDS. Limp cloth, price 1s. 6d.

IMPERIAL FEDERATION. By FREDK. YOUNG. Small 4to. handsomely bound, 6s. See page 80.

COLONIAL AND INDIAN POCKET-BOOK SERIES. S. W. SILVER & CO. are preparing for publication a SERIES of COLONIAL and INDIAN POCKET-BOOKS. Each Book of the Series will contain all the practical information the voyager requires for his guidance in taking his passage, securing his berth, getting his outfit, and embarking; also points of interest *en route*, &c.

SOUTH AFRICA is ready, with Sheets of Sketches of Cape Scenery, &c., price 5s.
WEST INDIES.—*Just out*; two books, with Seasons'-Chart of World, &c., 5s. each.

THE COLONIES AND INDIA.—Published every Friday evening, 20 pp., price 6d. Contains leading Articles on Colonial Questions; News Summaries from Australia, New Zealand, South Africa, Canada, India, Ceylon, West Indies; Prices of Food, Clothing and Wages, Inquiries and Answers, &c. Home Subscription, 6s. 6d. per Quarter; 25s. per Year, post paid. See p. 82.

**S. W. SILVER & CO.'S COLONIAL MAPS FOR
AUSTRALIA AND NEW ZEALAND—SOUTH AFRICA—TRANSVAAL
—SEASONS'-CHART OF THE WORLD, &c. See page 32.**

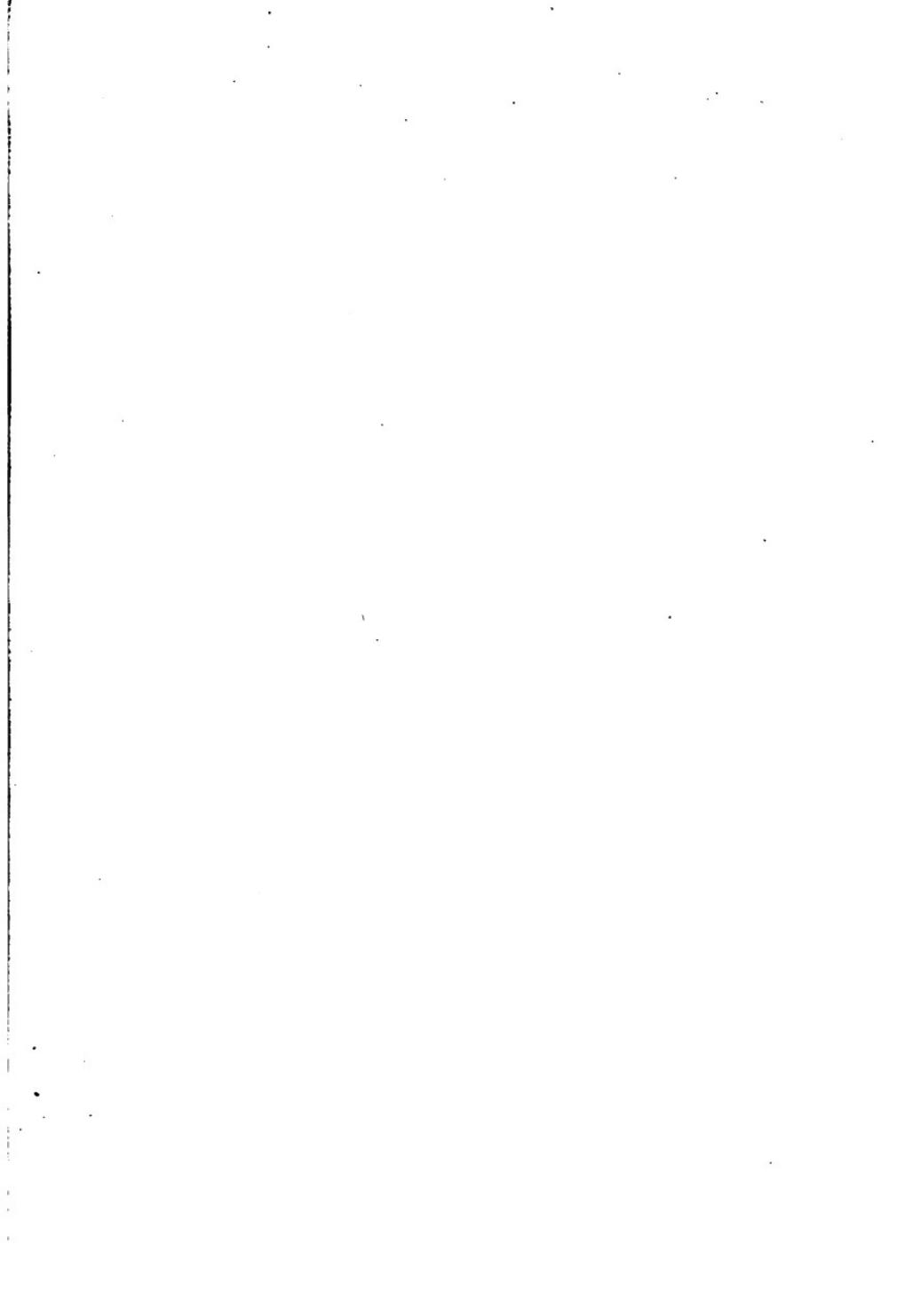
S. W. SILVER & CO., Sun Court, 67 Cornhill, London.

20

21









SEP 3 0 1980



F-100

